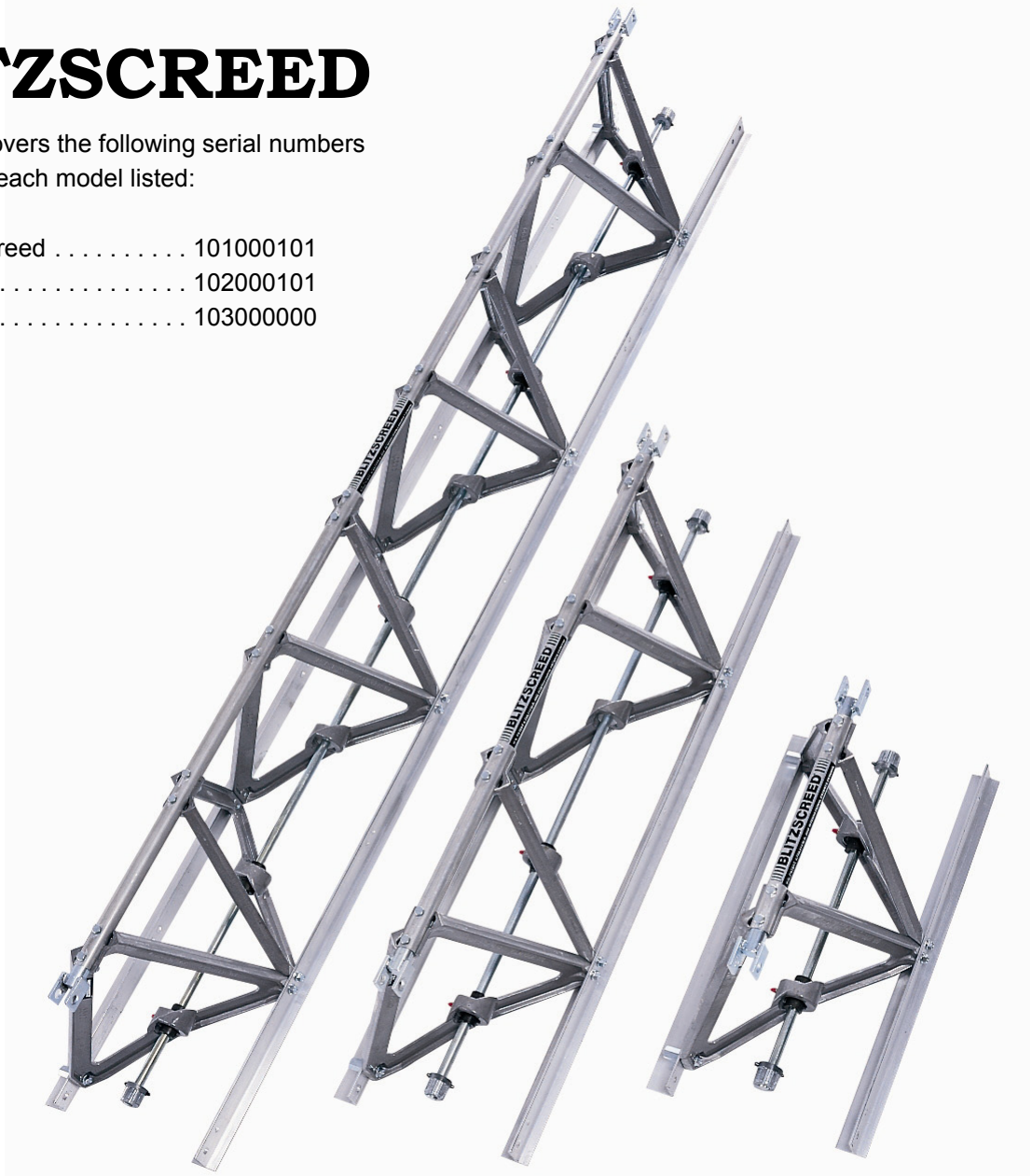
Operator's Safety and Service Manual

BLITZSCREED

This manual covers the following serial numbers and higher for each model listed:

Mechanical Screed 101000101
Air Screed 102000101
Power Winch 103000000



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⚠ WARNING ⚠

CALIFORNIA PROPOSITION 65 WARNING

Engine exhaust and some of its constituents are known in the state of California to cause cancer, birth defects, and other reproductive harm.

SAFETY INFORMATION

Introduction

This Safety Alert Symbol is used to call attention to items or operations which may be dangerous to those operating or working with this equipment. The symbol can be found throughout this manual and on the unit. Please read these warnings and cautions, along with all decals, carefully before attempting to operate the unit. Make sure every individual who operates or works with this equipment is familiar with all safety precautions.

⚠ WARNING ⚠

GENERAL WARNING. Indicates information important to the proper operation of the equipment. Failure to observe may result in damage to the equipment and/or severe bodily injury or death.

⚠ CAUTION ⚠

GENERAL CAUTION. Indicates information important to the proper operation of the equipment. Failure to observe may result in damage to the equipment.

Safety Precautions

LETHAL EXHAUST GAS: An internal combustion engine discharges carbon monoxide, a poisonous, odorless, invisible gas. Death or serious illness may result if inhaled. Operate only in an area with proper ventilation. NEVER OPERATE IN A CONFINED AREA!

DANGEROUS FUELS: Use extreme caution when storing, handling and using fuels, as they are highly volatile and explosive in vapor state. Do not add fuel while engine is running. Stop and cool the engine before adding fuel. DO NOT SMOKE!

SAFETY GUARDS: It is the owner's responsibility to ensure that all guards and shields are in place and in working order.

IGNITION SYSTEMS: Breakerless, magneto, and battery ignition systems can cause severe electrical shocks. Avoid contacting these units or their wiring.

SAFE DRESS: Do not wear loose clothing, rings, wristwatches, etc. near machinery.

NOISE PROTECTION: Wear OSHA specified hearing protection devices.

EYE PROTECTION: Wear OSHA specified eye shields, safety glasses, and sweat bands.

FOOT PROTECTION: Wear OSHA specified steel-tipped safety shoes.

HEAD PROTECTION: Wear OSHA specified safety helmets.

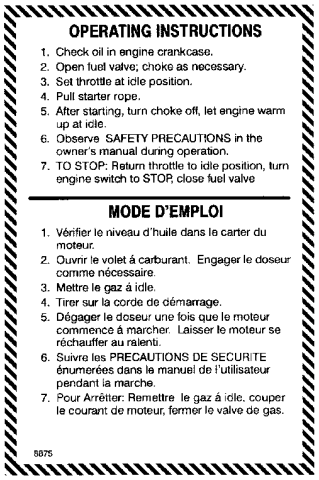
DUST PROTECTION: Wear OSHA specified dust mask or respirator.

OPERATOR: Keep children and bystanders off and away from the equipment.

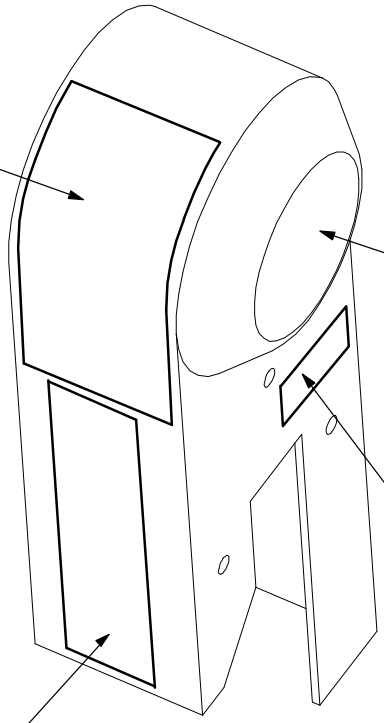
REFERENCES: For details on safety rules and regulations in the United States, contact your local Occupational Safety and Health Administration (OSHA) office. Equipment operated in other countries must be operated and serviced in accordance and compliance with any and all safety requirements of that country. The publication of these safety precautions is done for your information. MBW does not by the publication of these precautions, imply or in any way represent that these are the sum of all dangers present near MBW equipment. If you are operating MBW equipment, it is your responsibility to insure that such operation is in full accordance with all applicable safety requirements and codes. All requirements of the United States Federal Occupational Safety and Health Administration Act must be met when operated in areas that are under the jurisdiction of that United States Department.

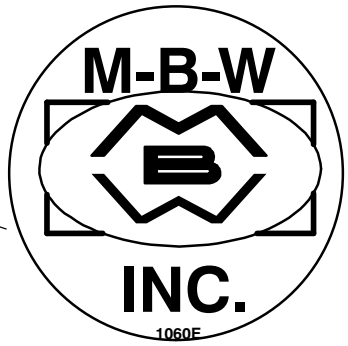
Safety Decals

Carefully read and follow all safety decals. Keep them in good condition. If decals become damaged, replace as required. If repainting the unit, replace all decals. Decals are available from authorized MBW distributors. Order the decal set listed on the following page(s).


OPERATING INSTRUCTIONS
1. Check oil in engine crankcase.
2. Open fuel valve; choke as necessary.
3. Set throttle at idle position.
4. Pull starter rope.
5. After starting, turn choke off, let engine warm up at idle.
6. Observe SAFETY PRECAUTIONS in the owner's manual during operation.
7. TO STOP: Return throttle to idle position, turn engine switch to STOP, close fuel valve
MODE D'EMPLOI
1. Vérifier le niveau d'huile dans le carter du moteur.
2. Ouvrir le volet á carburant. Engager le doseur comme nécessaire.
3. Mettre le gaz á idle.
4. Tirer sur la corde de démarrage.
5. Dégager le doseur une fois que le moteur commence á marcher. Laisser le moteur se réchauffer au ralenti.
6. Suivre les PRECAUTIONS DE SECURITE énumerées dans le manuel de l'utilisateur pendant la marche.
7. Pour Arrêter: Remettre le gaz á idle, couper le courant de moteur, fermer le valve de gas.
8875

#08875, On Belt Guard





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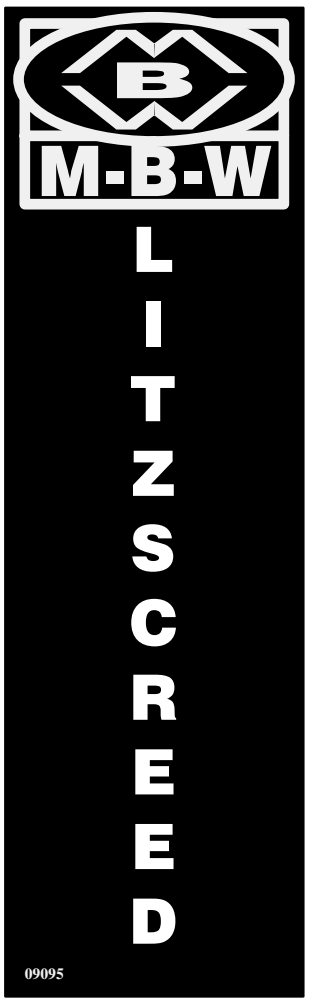

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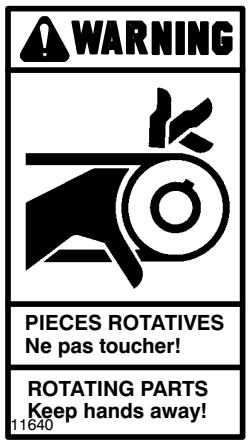

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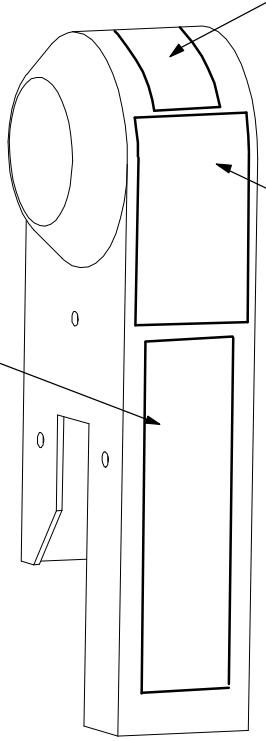
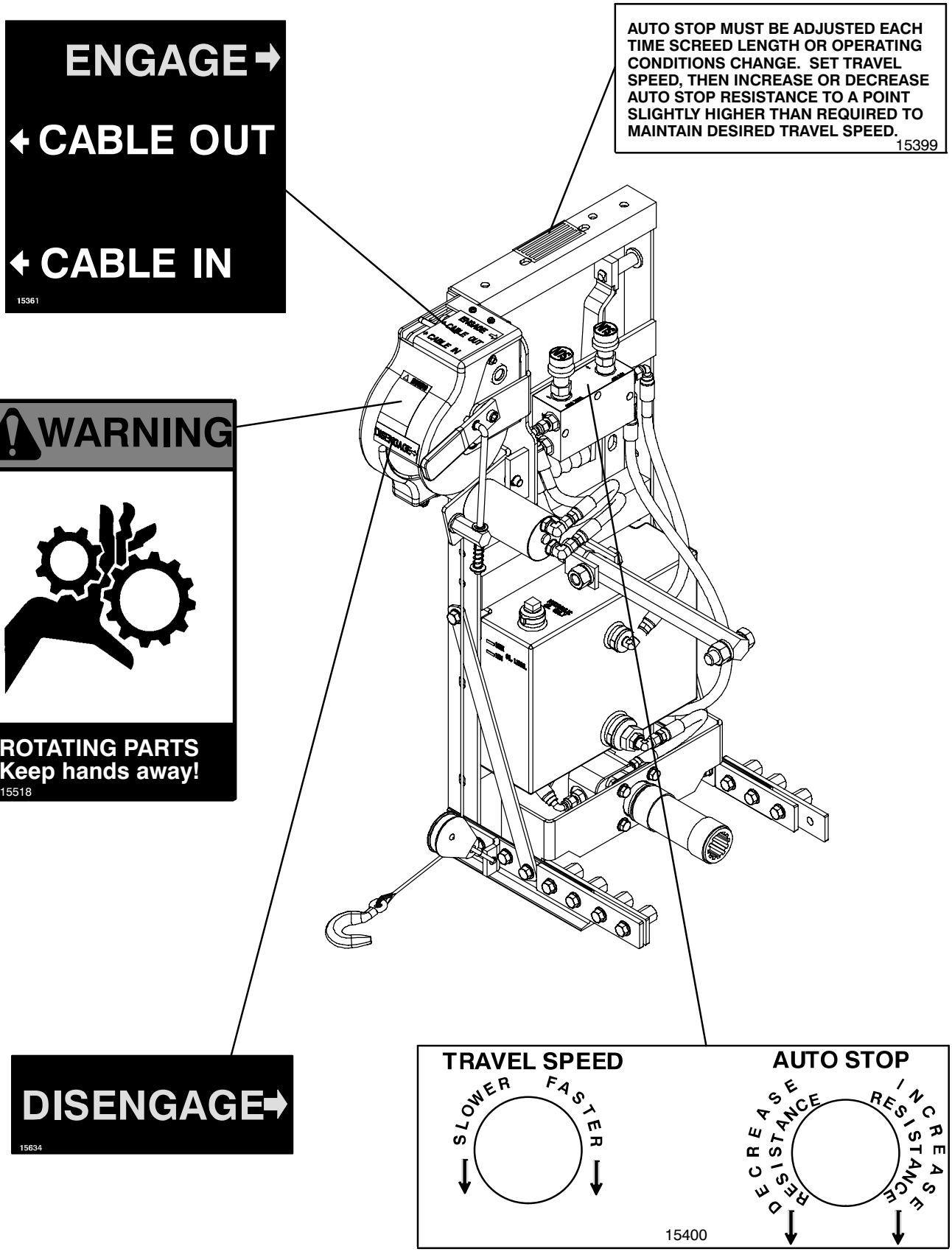


CAUTION
Read the operating instructions before operating this piece of equipment.
Keep unauthorized, inexperienced, untrained people away from this equipment.
CHECK saftey switch frequently for proper operation.
ROTATING & MOVING PARTS! Make sure all guards and safety devices are in place.
DO NOT RUN this machine in an enclosed area. The engine produces carbon monoxide, a POISONOUS gas.
SHUT OFF the engine before servicing , cleaning or adding fuel.
Failure to comply could result in serious bodly injury.
Lire le Mode d'Emploi avant de faire fonctionner le matériel
Eloigner toute personne non formée, non autorisée et inexpérimentée du matériel.
VERIFIER fréquemment l'interrupteur de sécurité pour un bon fonctionnement.
PIECES TOURNANTES ET MOBILES! S'assurer que tous les protecteurs et les dispositifs de sécurité sont en place.
NE PAS FAIRE FONCTIONNER le matériel dans les lieux clos. Le moteur produit de l'oxyde de carbone, un gaz TOXIQUE.
ARRETER le moteur avant d'entretenir ou de nettoyer, et avant d'y ajouter de l'essence.
L'inobservation des consignes de sécurité risque de provoquer de graves blessures corporelles.
1447

#01447, On Belt Guard

Safety Decals



Safety Decals

OPERATION

Introduction

MBW equipment is intended for use in very severe applications. They are powered by four cycle engines and are available in different sizes and a selection of engines.

This parts manual contains only standard parts. Variations of these parts as well as other special parts are not included. Contact your local MBW distributor for assistance in identifying parts not included in this manual.

Before Starting & Operating

- REMEMBER! It is the owner's responsibility to communicate information on the safe use and proper operation of this unit to the operators.
- Review ALL of the Safety Precautions listed on page 1 of this manual.
- Familiarize yourself with the operation of the machine and confirm that all controls function properly.
- Know how to STOP the machine in case of an emergency.
- Make sure hands, feet, and clothing are at a safe distance from any moving parts.
- OIL LEVEL - Check the oil level in the engine. For more information see "Lubrication" under the respective engine's "Owners Manual" or the Maintenance section of this manual.
- AIR CLEANER - Check to ensure element is in good condition and properly installed.
- FUEL SUPPLY - The engines on MBW equipment require an automotive grade of clean, fresh, unleaded gasoline.
- FUEL FILTER - If clogged or damaged, replace.

Setup

Section Assembly

The following describes the assembly procedure of screed sections for both Mechanical and Air Screeds. Section assembly of an Air Screed is identical except where otherwise stated. It is **essential** to follow the proper set up sequence when assembling the screed for optimum performance.

IMPORTANT! - For steps 1-10, the screed sections must be on a flat surface.

1. Determine the number of sections required to obtained the proper screed length. Arrange the sections so the longer sections are in the middle and the shorter sections are at the ends.
2. For the mechanical screed, afix an engine kit to one of the end sections or to the middle section. **Refer to Engine Kit Assembly (5.5 HP Honda), page 20.**, for engine kit installation.
3. If an air screed is being used, **refer to Air Drive Assembly, page 13** for instruction on assembling air drive and end frames.
4. Assemble end frames and winches to the end sections. **Refer to End Frame Assembly, page 13.** for installation of end frames.
5. Start assembling sections at one end of the screed. For mechanical screeds place a flex coupling along with two flex coupling collars between the two coupling drivers of adjoining sections. Collars should be slid out to the ends of the flex coupling.

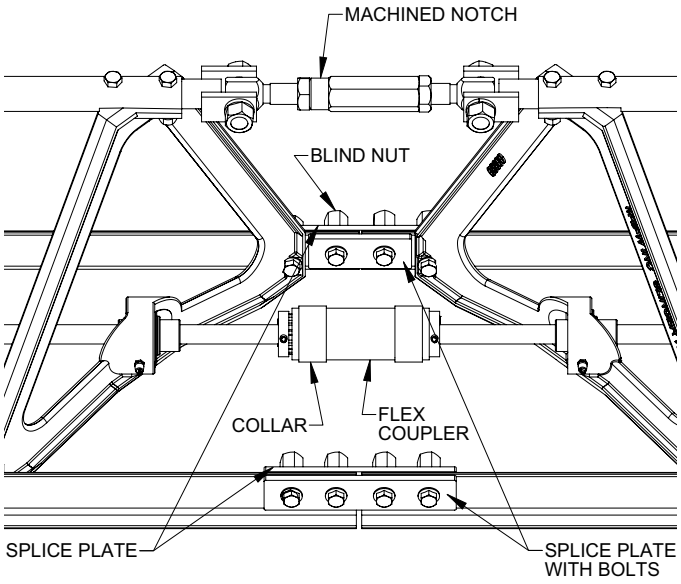
⚠ CAUTION ⚠

Check that the two vibrating shaft offsets are in line.

For the air screed join the threaded manifold ends with a manifold hose. Use a pipe wrench to prevent the manifold from turning while the hose ends are tightened onto the manifold ends. Assemble all sections in this manner. Sight down top tubes of all sections joined and straighten sections if necessary.

6. Install a two bolt splice plate through L-rail. Install a four hole splice plate on the outside of the rail and loosely install four blind nuts.
7. Install a four bolt splice plate through the strikeoff rail. Install a four hole splice plate on the inside of the edging and loosely install four blind nuts.

8. Make sure the bottom of the four edgings are in the same plane or height. Tighten both splice plates securely.

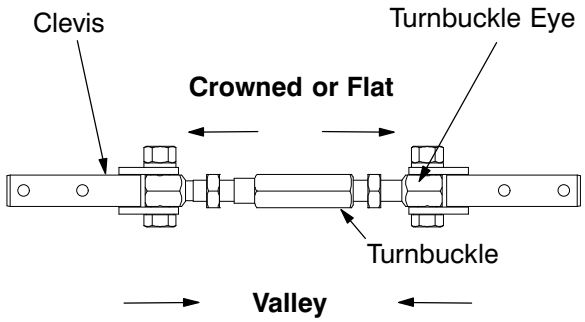


9. Loosely install the turnbuckle assembly directly above the flex coupling to both clevises using a 5/8-18 X 2-1/2 bolt, lockwasher, and a hex nut. **Install all the turnbuckles in the same direction as you progress down the screed.** There is a notch cut on one end of the turnbuckle to indicate its direction. Remember, **do not tighten the turnbuckle hardware yet.**

REPEAT STEPS 6-10 UNTIL ENTIRE SCREED IS ASSEMBLED

After screed is assembled to desired length, a string line should be used for final adjustments.

10. If the pour surface is to be crowned or flat, rotate the turnbuckles so the turnbuckle eyes are pushed away from each other taking out the slack at the clevis connections. If the pour surface is a valley, rotate the turnbuckles so the turnbuckle eyes are drawn towards each other taking out the slack at the clevis connections. (See Figure Below). Tighten down the 5/8 bolts going through the clevises and turbuckle eyes HARD once the slack is removed.



11. The screed is now ready for grade adjustment. Place the assembled screed on blocks or forms. String a line across the back of the float edge of the screed. Start with the centermost turnbuckle and adjust it so the bottom edge of the screed moves up or down until it is adjusted to the desired grade. Adjust each turnbuckle, working out from the center, until the desired grade is achieved. As the turnbuckles are adjusted from the center out, previously adjusted turnbuckles may need to be readjusted to grade. Readjust the centermost turnbuckles and continue adjusting outward. When all adjustments are completed, tighten the jam nuts.

⚠ CAUTION ⚠

If there is a significant difference between the ambient temperature at set up and the temperature of the concrete to be screeded, the rails may warp due to thermal expansion. Recheck the grade of the screed if this is the case.

Starting Engine

1. Open fuel valve.
2. Turn engine switch to “ON”.
3. Set throttle to idle.
4. Choke engine if necessary (you may not need to choke a warm engine).
5. Pull starter rope repeatedly until engine starts.
6. Move choke lever to open position.
7. Allow engine to warm up for one or two minutes.

Operating

Proper screed operation is dependant upon uniform and accurate concrete placement. The puddlers should rough grade the freshly poured concrete to just above the strikeoff edging. For the mechanical screed, effective screeding can be done with the engine set from 2000 to a maximum of 2800 rpm. The operating air pressure range of the air screed is 40 to 60 PSI, depending upon the concrete slump. Each vibrator uses 4 CFM.

⚠ WARNING ⚠

Increasing engine RPM above 2800 can cause damage to A-Frames.

1. Begin moving screed to strike off rough graded concrete.
2. Puddlers should maintain a uniform rough grade and remove any concrete buildup in front of leading edge.

3. If screed has to be stopped, it is important to do so quickly as this will prevent wash back and ridges.
4. Before starting up again, pick up screed and set it back about a foot, then proceed.
5. If there is a time delay between concrete trucks, the unfinished concrete should be rough graded back and well below screed strike off height. This will prevent a cold joint when screed operation is resumed.

Cleaning

1. After using screed, immediately wash the screed down with water hose or high pressure washer and scrub any hard buildup of concrete with a stiff brush. Do not use wire brush.
2. Grease each bearing of the mechanical screed with one shot of low temperature grease immediately after cleaning. **Do not over grease the bearings!**
3. Run screed at operating speed for one minute to dissipate and expel excess water and grease.

⚠ WARNING ⚠

Do not use a hammer to remove concrete from the screed.

Hydraulic Winch

The hydraulic winches are powered by the main screed shaft and will only operate when the screed shaft is turning. Hydraulic winch operation requires a 9 hp engine.

To Start Hydraulic Winch:

1. Start engine and throttle up to high rpm.
2. Move winch handle to the “CABLE IN” position.
3. Move the drive gear lever to the “ENGAGE” position. The screed will begin moving. If screed does not move, adjust travel speed and autostop valve until the unit starts to move.
4. The “Auto Stop” is to allow the screed to stop at any obstruction without falling over.

To Adjust Travel Speed Valve

1. Loosen jam nut counter-clockwise below top knob until jam nut stops. Hold in this position or vibration from unit will change setting.
2. Turn top knob clockwise to increase speed or counter-clockwise to decrease speed.
3. Turn jam nut clockwise to lock travel speed valve.

To Adjust Auto Stop Valve

Note: Auto stop valve is preset at the factory and should not need to be re-adjusted for lengths under 25 feet.

1. Loosen jam nut counter-clockwise below top knob until jam nut stops. Hold in this position or vibration from unit will change valve setting.
2. Turn top knob clockwise to increase resistance. This will increase cable pulling power. Turn counter clockwise to lessen pulling power.
3. Turn jam nut clockwise to lock auto speed valve.

Note: Failure to lock jam nut will allow valves to turn from vibration during operation.

4. The factory setting for the auto stop can be set by turning the valve all the way in clockwise and out 1-1/2 turns.
5. The auto stop valve is to allow the screed to stop at any obstruction without falling over.

To Stop Hydraulic Winch:

1. Move the drive gear lever to the “DISENGAGE” position on left and right side.
2. Return engine speed to idle or the concrete under the screed will start to separate.

Stopping Engine

1. Move throttle to idle position.
2. Let engine idle for one or two minutes.
3. Turn switch on engine to “STOP” position.
4. Turn off fuel valve.

⚠ WARNING ⚠

Always stop the engine before:

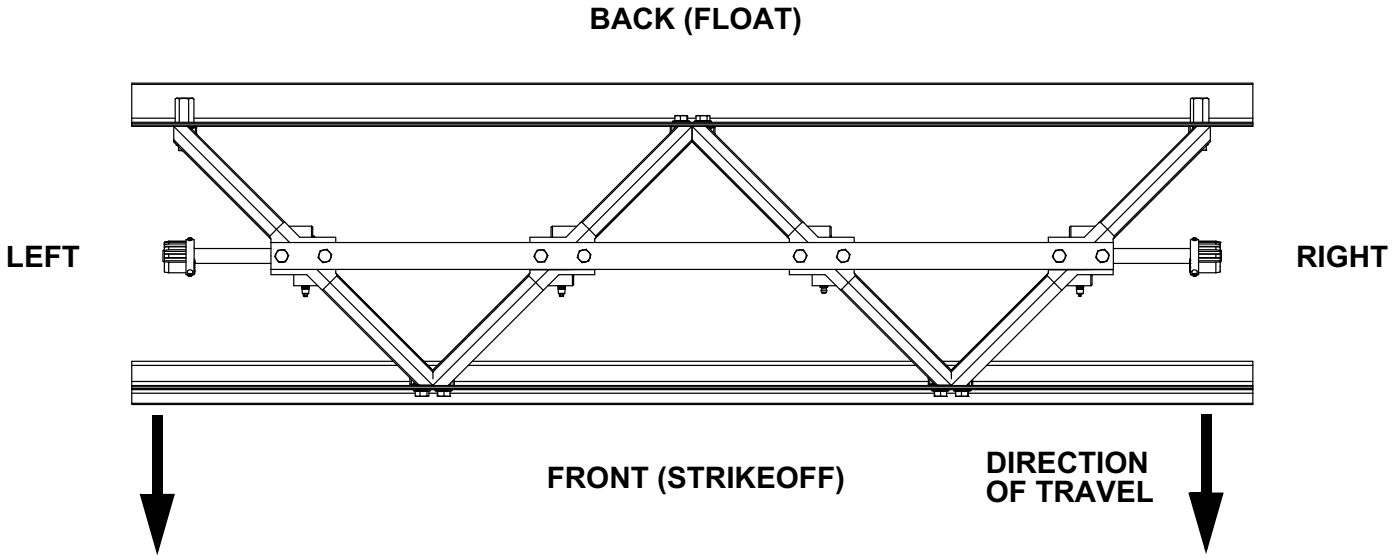
Adding fuel.

Leaving the equipment unattended for any amount of time.

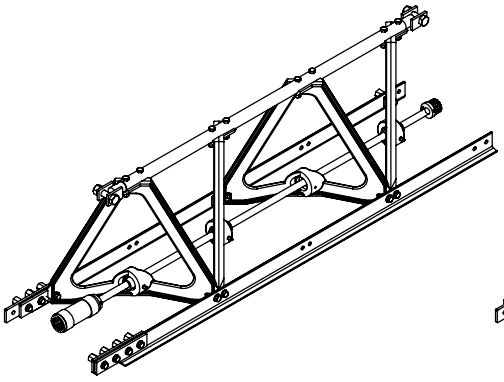
Making any repairs or adjustments to the machine.

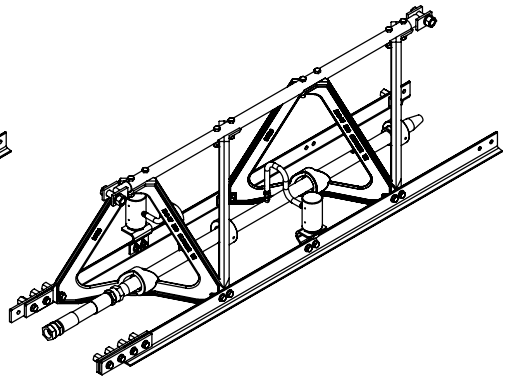
Directions

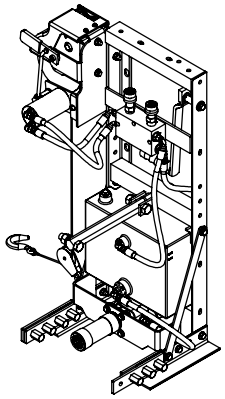
Right and left sides of the screed are determined by facing the front (strikeoff) rail (“T” shaped rail).



SPECIFICATIONS







	MECHANICAL	AIR
Length	MVS8 - 8 ft 4 in (2.54 m)	AVS8 - 8 ft 4 in (2.54 m)
	MVS4 - 4 ft 4 in (1.32 m)	AVS4 - 4 ft 4 in (1.32 m)
	MVS2 - 2 ft 4 in (0.71 m)	AVS2 - 2 ft 4 in (0.71 m)
Rails	Front “T” Profile Rail (Standard) Front “L” Profile Rail (Optional) Rear “L” Profile Rail (Standard)	
Truss Height	16 in (40.7 cm)	
Truss Width	15 in (38.1cm)	
Max Section Misalignment	2.75 Degrees	2.75 Degrees
Weight Approx.	8.3 lb/ft (12 kg/m) (excluding engine)	8.9 lb/ft (13.2 kg/m) (excluding regulator kit)
Engine	Robin EX170	N/A
	Honda GX160	
	Honda GX270	
Engine Speed	2800 RPM (max.)	
Eccentric Shaft Speed	2800 RPM (max.)	
Centrifugal Force / Unit Length	15.0 lb/ft (220 N/m) @ 2800 RPM	
Vibrations per Minute	N/A	5000-8000
Air Operating Pressure		40-60 psi (0.28-0.41 MPa)
Air Usage		4 cfm (0.11 m^3/min) / vibrator

	HYDRAULIC WINCH
Noise Level	89 dba
Weight	82 lb/side (37 kg/side)
Length	10 in (25.4 cm)
Height	34 in (86.4 cm)
Oil Capacity	1.7 gal (6.4 l)
Width	9.75 in (24.8 cm)
Speed	0-16.7 ft/min (0-5.1 m/min)

Specifications subject to change without notice.

MAINTENANCE

⚠ WARNING ⚠

Always exercise the stopping procedure before servicing or lubricating the unit.

After servicing the unit, replace and fasten all guards, shields, and covers to their original positions before resuming operation.

⚠ CAUTION ⚠

Always verify fluid levels and check for leaks after changing fluids.

Do not drain oil onto ground, into open streams, or down sewage drains.

Maintenance Schedule

SYSTEM	MAINTENANCE	EACH USE	EVERY 50 HOURS	EVERY 250 HOURS	YEARLY
Engine	Refer to engine operator/owner manual	X			
Hyd Oil	Check oil level	X			
Hyd	Check for oil leaks	X		X	X
Air Hoses	Check for cracks or tears		X		X
Exciter, Air	Tighten Bolts[1]		X		X
Hardware	Check and tighten as needed		X		X

1. Check all hardware after the first 5 hours of use, then follow the maintenance schedule.

Fluid Levels

SYSTEM	FLUID VOLUME	RECOMMENDED OIL
Winch	1.7 gal per side	Hydraulic Oil (ISO32)
Engine	Refer to engine operator/owner manual	

Engine Maintenance

Refer to the engine owner's manual for maintenance intervals and procedures.

A-Frame Replacement

REMOVAL *(Mechanical)*

1. Remove coupling driver. Support end of shaft when driving out the spiral pin, slide the coupler off.

2. Loosen bearing set screws and remove shaft. If there is a drive pulley on the shaft, it must be loosened to remove the shaft. Note the position of taperlock bushing on the shaft before removal. To loosen drive pulley remove both sheave bolts and re-install into the opposite threaded holes on sheave. This will push apart the assembly. Refer to figure on next page.

3. Slightly loosen all bottom A-frame whiz-lock screws securing rails to A-frames.

4. Loosen top tube bolts and remove top tube.

5. Remove the two bottom whiz-lock screws in A-frame to be removed. Remove A-frame.

INSTALLATION *(Mechanical)*

1. Installation must be done on a flat surface.

2. Loosely install new A-frame into screed with two whiz-lock screws.

3. Loosely install top tube with hardware.

4. Tap screed on flat surface to ensure it is flat and true.

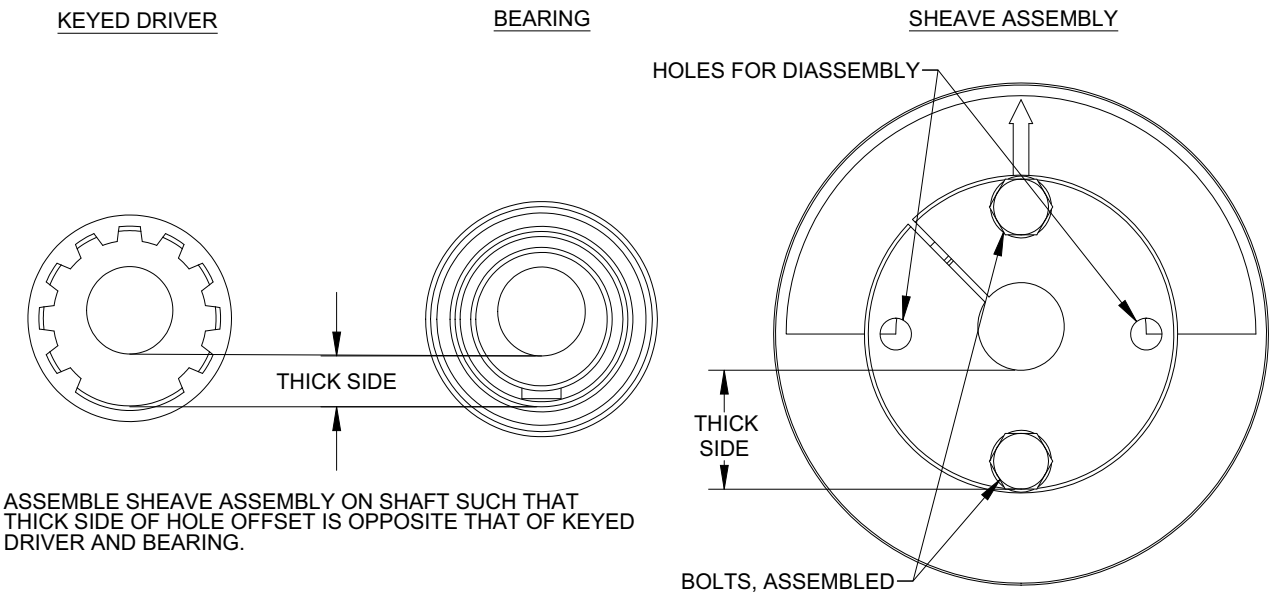
5. Tighten all whiz-lock screws securing A-frames to screed rails.

6. Tighten top tube bolts.

7. Turn and align bearings so the set screws are **all facing up.**

8. Insert shaft into screed bearings. If a drive pulley was removed, loosely place it on the shaft under engine. Also ensure the shaft is positioned through drive belt(s).

9. Align set screw marks on shaft with set screws in bearings. This will ensure the shaft is properly centered in


KEYED DRIVER
BEARING
SHEAVE ASSEMBLY
HOLES FOR DIASSEMBLY
THICK SIDE
THICK SIDE
BOLTS, ASSEMBLED
ASSEMBLE SHEAVE ASSEMBLY ON SHAFT SUCH THAT THICK SIDE OF HOLE OFFSET IS OPPOSITE THAT OF KEYED DRIVER AND BEARING.

screed. There should be an offset of 1-7/16" from the end of the shaft to the end of the screed edgings.

10. Tighten bearing set screws ensuring they are all in the same orientation. Refer to image above.

11. Align and install coupling driver. **Make sure offset of coupling driver matches offset of eccentric bearings when installed (thick side of coupling driver matches orientation of thick side of eccentric bearings).** Support the end of the shaft when driving the spiral pin through. The pin should be driven in so an equal amount of the pin is protruding from the coupling driver on either side.

12. If applicable, tighten drive pulley and align as described in **Refer to Engine Assembly, page 12.**

Note: Make sure offset of drive pulley matches the offset of eccentric bearings.

REMOVAL ***(Air Screed)***

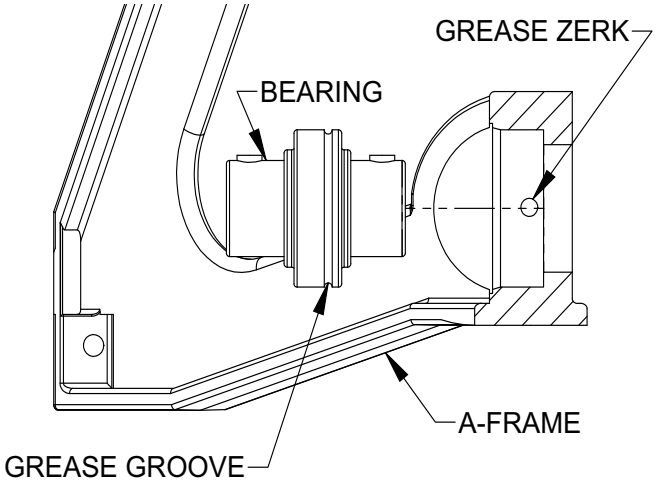
1. Disconnect exciter air hoses from air manifold.
2. Remove male connectors from air manifold.
3. Slide air manifold out of screed.
4. Slightly loosen all bottom A-frame whiz-lock screws securing rails to A-frames.
5. Loosen top tube bolts and remove top tube.
6. Remove the two bottom whiz-lock screws in A-frame. Remove A-frame.

INSTALLATION ***(Air Screed)***

1. Installation must be done on a flat surface.
2. Loosely install new A-frame into screed with two whiz-lock screws.
3. Loosely install top tube with hardware.
4. Tighten all whiz-lock screws securing A-frames to screed rails.
5. Tighten top tube bolts.
6. Insert air manifold into screed. Orient air ports so they face up.
7. Install male connectors into air ports.
8. Connect air exciter hoses to air manifold.

Bearing Replacement *(Mechanical Screed)*

1. Remove A-frame (Refer to section on **A-Frame Replacement**).
2. Knock out or press out old bearing out of A-frame.
3. Remove set screw on new bearing before installing.
4. Press new bearing into A-frame, refer to figure below.
5. Make sure grease groove lines up with grease zerk.



6. Install A-frame into screed (refer to **A-Frame Replacement**).

Drive Belt Replacement *(Mechanical Screed)*

There should always be two drive belts on the screed, four if using HD Dual belt system. One for driving and one for

emergency replacement. For the HD Dual belt system, two for driving and two for emergency replacement. It is assumed the engine kit is installed on the left side of the screed for this procedure.

1. Remove left coupling driver. Support end of shaft when driving the spiral pin out.

2. Loosen set screws in the left most A-frame bearing.

3. Remove the two bolts from the top tube at left end of screed and remove clevis.

4. Remove blind nut from bottom screw in left A-frame and back screw out so it clears edging surface.

5. Remove whiz-lock screw holding the other leg of A-frame to rail and slide A-frame off the shaft.

6. Slip on a new drive belt over clutch and drive pulley. Secure an extra drive belt to an A-frame next to the drive pulley using tie wraps. Make sure extra drive belt is threaded over top tube and under shaft. For HD Dual belt system, secure two belts to A-frame and use two on clutch.

7. Assemble A-frame, clevis and coupling driver removed earlier. The eccentric bearing offsets have to all be orientated in the same direction. **Make sure offset of coupling driver matches offset of eccentric bearings when installed (thick side of coupling driver matches orientation of thick side of eccentric bearing).** Remember to support shaft when installing coupling driver. Tighten associated hardware and bearing set screws.

8. Loosen engine deck mounting bolts. Adjust drive belt so it can be pinched together to touch with finger pressure. For HD drive, the belts should deflect about 1/2", with moderate pressure. Tighten engine deck mounting bolts keeping engine level.

Long Term Storage *(Mechanical Screed)*

Before storing screed for an extended period of time:

1. Grease bearings with one shot of low temperature grease after final usage before storing. Run screed at operating speed for one minute after greasing all bearings.

2. Refer to engine's **Operator's Manual** for instructions on storage procedure for engine.

Changing Hydraulic Oil *(Hydraulic Winches)*

1. Remove winch assembly from screed sections.

2. Lay winch assembly on its side (rails pointed up) and remove lower hydraulic hose.

3. Remove filter/fitting assembly.

4. Tip winch assembly over and drain oil into a drain pan, dispose of properly.

5. Clean filter assembly in a cleaning solvent, inspect filter and replace if damaged.

6. Check all hoses for wear or damage, replace as necessary.

7. Reassemble filter assembly and hydraulic hose, use sealant at connections. Then, refill tank with 1.7 gallons of of hydraulic oil (ISO32).

Winch Maintenance *(Hydraulic Winches)*

1. Remove guard and inspect cable for wear, replace if damaged.

2. Inspect all bushings for wear, replace if damaged.

3. Inspect both drive and driven gears for wear, replace if necessary. Make sure gears are free of any foreign materials.

4. Reinstall guard and inspect decals, replace decals if damaged or illegible.

Greasing Bearings *(Mechanical Screed)*

Bearings come prelubed from the factory and do not need to be greased for initial use. Bearings need to be greased after a days useage and after the screed has been washed down and for long storage. Run screed at operating speed for one minute after greasing all bearings. It is recommended to use a low temperature grease. Refer to sections on **Operation** and **Long Storage** in this manual for additional information. Only one shot of grease is needed for each bearing. Over greasing will result in excess drag on the shaft.

Assembly and disassembly should be performed by a service technician who has been factory trained on MBW equipment. The unit should be clean and free of debris. Pressure washing before disassembly is recommended.

- Prior to assembly, wash all parts in a suitable cleaner or solvent.
- Check moving parts for wear and failure. Refer to the Replacement section in this manual for tolerance and replacement cycles.
- All shafts and housings should be oiled prior to pressing bearings. Also, ensure that the bearings are pressed square and are seated properly.
- All gaskets and seals should be replaced after any disassembly.

Torque Chart

SIZE	GRADE 2	GRADE 5	GRADE 8
1/4-20	49 in•lbs	76 in•lbs	9 ft•lbs
1/4-28	56 in•lbs	87 in•lbs	10 ft•lbs
5/16-18	8 ft•lbs	13 ft•lbs	18 ft•lbs
5/16-24	9 ft•lbs	14 ft•lbs	20 ft•lbs
3/8-16	15 ft•lbs	23 ft•lbs	33 ft•lbs
3/8-24	17 ft•lbs	26 ft•lbs	37 ft•lbs
7/16-14	24 ft•lbs	37 ft•lbs	52 ft•lbs
7/16-20	27 ft•lbs	41 ft•lbs	58 ft•lbs
1/2-13	37 ft•lbs	57 ft•lbs	80 ft•lbs
1/2-20	41 ft•lbs	64 ft•lbs	90 ft•lbs
9/16-12	53 ft•lbs	82 ft•lbs	115 ft•lbs
5/8-11	73 ft•lbs	112 ft•lbs	159 ft•lbs
5/8-18	83 ft•lbs	112 ft•lbs	180 ft•lbs
3/4-16	144 ft•lbs	200 ft•lbs	315 ft•lbs
1-8	188 ft•lbs	483 ft•lbs	682 ft•lbs
1-14	210 ft•lbs	541 ft•lbs	764 ft•lbs
1-1/2-6	652 ft•lbs	1462 ft•lbs	2371 ft•lbs
M 6	3 ft•lbs	4 ft•lbs	7 ft•lbs
M 8	6 ft•lbs	10 ft•lbs	18 ft•lbs
M 10	10 ft•lbs	20 ft•lbs	30 ft•lbs
CONVERSIONS			
in•lbs x 0.083 = ft•lbs			
ft•lbs x 12 = in•lbs			

SIZE	GRADE 2	GRADE 5	GRADE 8
ft•lbs x 0.1383 = kg•m			
ft•lbs x 1.3558 = N•m			

Engine Assembly

The engine must be put on any mechanical screed section on the left end where there are bearings in two adjacent A-frames. Installation is the same for the single and dual belt drive systems. The only difference is the dual belt system will have four belts, two drive belts and two extras. **Refer to Engine Kit Assembly (5.5 HP Honda), page 20**

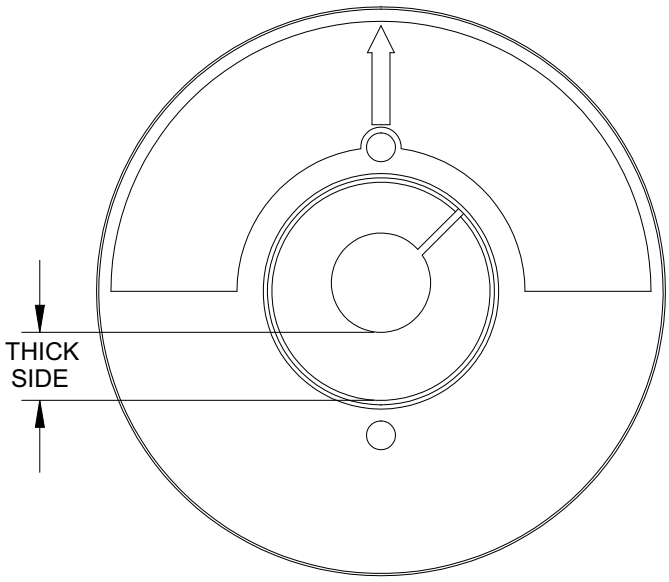
1. To install sheave, first remove left coupling driver. Support the end of the shaft when driving out the spiral pin. Now remove the left end A-frame and clevis. Slide sheave (#12) onto main shaft. Also put the V-belts (#8), supplied with the engine kit, around the main shaft and over the top of the top tube. Reassemble the left A-frame, clevis and coupling driver. Do not install the top tube bolts at this time.

Note: Install sheave with screws facing towards the bearing.

2. Remove the two top tube bolts from the right A-frame next to the left A-frame removed in step 1. Set mounting bracket (#10) on the top tube and align the holes up over the two A-frames. Use four bolts (#22) to secure mounting bracket through holes aligned above. These bolts replace the original 3/8-16 X 2 bolts that were removed earlier.
3. Place engine mounting deck (#9) on top of mounting bracket installed in step 2. Loosely install engine mounting deck using four whiz-lock bolts (#21) and flange nuts (#23) through slots in mounting deck and through holes in mounting bracket. The mounting deck should be in its lowest position.
4. Bolt engine tight to the mounting deck using four engine mounting bolts (#16), eight washers (#20) and four flange nuts (#17). Make sure to place washers between the engine and the engine deck.
5. Slip one V-belt over engine clutch. Place V-belt on sheave and align sheave with engine clutch. Secure spare V-belt(s) to an A-frame using tie wraps.

Note: Make sure the shaft is rotated to its highest position at this time (set screws in bearings are down).

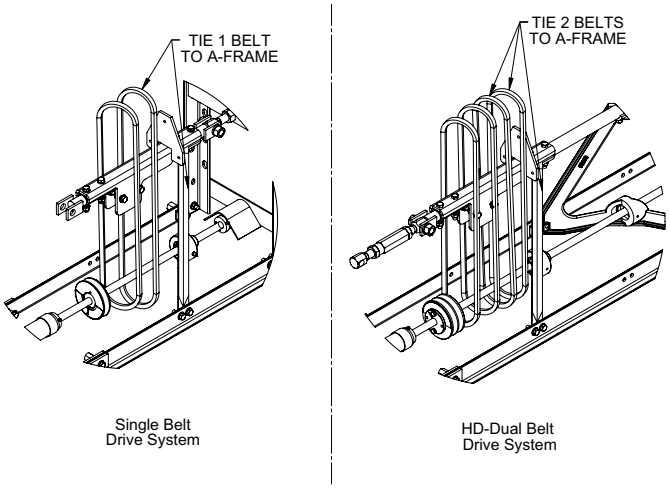
6. Rotate pulley so the **thick** side of bore is **below** the shaft. Tighten sheave onto shaft by tightening the two screws in the tapered bushing of sheave.



7. Adjust belt tension by sliding engine mounting deck upward in slots. Check belt tension by pinching the belt between your fingers.

SINGLE BELT - The two sides of the belt should touch or go slightly past each other.

DUAL BELT - With moderate pressure, belts should deflect about 1/2".



8. Tighten the four whiz-lock bolts holding the engine mounting deck to the mounting bracket.

Note: Do not over tighten belt.

9. Bolt the belt guard to the mounting bracket using three whiz-lock screws (#15).

End Frame Assembly

The end frames are symmetrical and can be used on either end. **NOTE:** The end frames for the hydraulic drive are left hand and right hand. **Refer to Engine Kit Assembly (5.5 HP Honda), page 20.**

1. Set an end frame (#5) on one of the screed ends and align the two bottom holes with the two holes in the edging. Secure with two whiz-lock screws (#21) and two flange nuts (#23).
2. Attach eye bolt (#6) to clevis and place through hole in center of cross brace. Square end frame with screed edging by adjusting the two nuts (#32) on the eye-bolt and then tightening them securely.

Air Drive Assembly

Refer to Air Regulator Kit Assembly, page 26.

1. Decide on which end of screed the combination regulator unit will be mounted.
2. Install 90 degree pipe fitting (#10) and nipple (#9) on regulator end of air manifold. Install pipe cap (#21) on opposite end of manifold.
3. Install end frames on either end of screed, **Refer to End Frame Assembly, page 13.**
4. On inlet side of regulator assembly install pipe nipple (#9) and ball valve (#11).
5. On outlet side of regulator assembly install pipe nipple (#9), 90 degree pipe fitting (#10) and another pipe nipple (#9).
6. Install pipe plug and pressure gauge on regulator assembly.
7. Install pipe rings (#1) on each side of air regulator (#6).
8. Using bolts (#23) and nuts (#7), mount air filter assembly bracket (#5) to the screed end bracket (#2).
9. Using bolts (#22) and nuts (#16) mount regulator assembly to mounting bracket.
10. Install air hose (#7) between regulator assembly outlet and screed air manifold.

Hydraulic Drive Assembly

Refer to Hydraulic Winch Kit (RH Shown) - Figure 2, page 32.

1. Install the flex coupling (#8) with the two collars (#7).
2. Install end frames (#1) on either end of screed.
3. Install a three bolt splice plate (#9) on the inside of the float rail. Install a four hole splice plate (#4) on the outside of the float rail and loosely install three blind nuts (#2).
4. Install a four bolt splice plate (#3) on the outside of the strikeoff edging. Install a four hole splice plate (#4) on the inside of the strikeoff edging and loosely install four blind nuts (#2).

5. Make sure the bottom of the four edgings are in the same plane. Securely tighten both splice plates.

6. Install the extension bar with a hex head bolt (#16) and a lockwasher (#18) with hex nut (#17). Refer to Hydraulic Winch Kit (RH Shown) - Figure 1, page 30

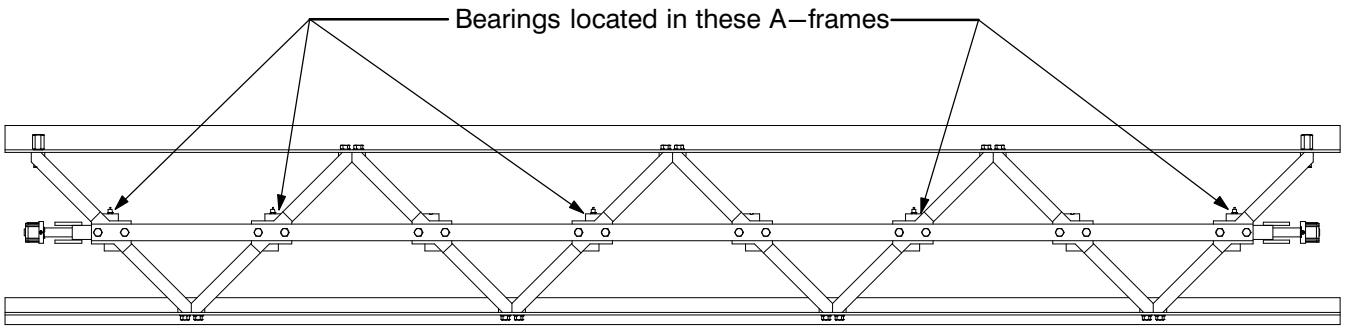
Parts Replacement Cycles and Tolerances

Bearings	Replace anytime a bearing is rough, binding, discolored or removed from housing or shaft.
Clutch	Replace clutch if it does not disengage below 1800 rpm.
Engine Components	Refer to your engine manufacturer's Owner's Manual.
Hardware	Replace any worn or damaged hardware as needed. Replacement hardware should be grade 5 and zinc plated unless otherwise specified.
Safety Decals	Replace if they become damaged or illegible.
Seals & Gaskets	Replace if a leak is detected and at every overhaul or teardown.
V-Belts	Replace if cracked, torn, or stretched to the point the belt won't tension properly.
A-Frame	Replace if cracked or damaged.
Flex Keyed Coupler	Replace if cracked, worn or teeth are missing.
Hoses	Replace if a leak is detected.

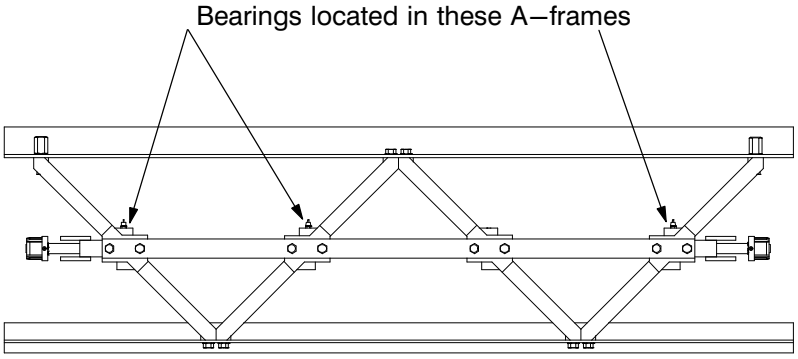
BEARING LOCATIONS (*MECHANICAL SCREED*)

The eccentric bearings are located in the screed A-frames as shown below.

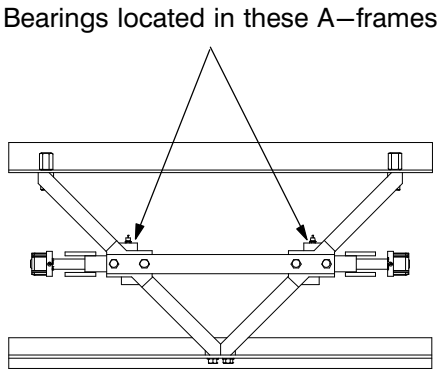
MVS8



MVS4



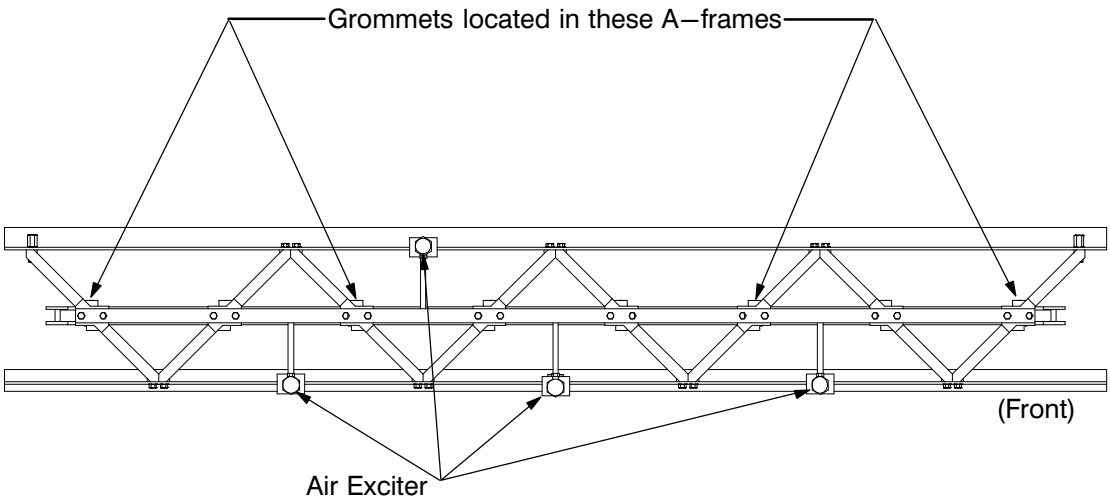
MVS2



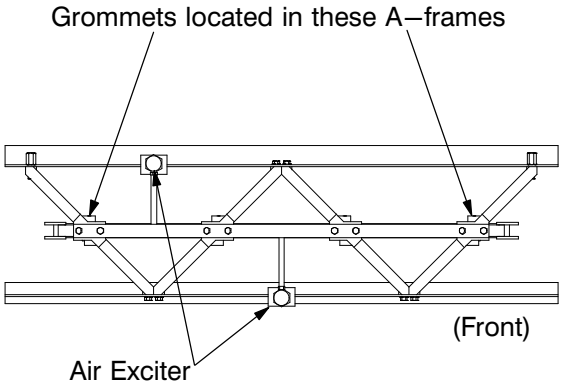
AIR EXCITER & GROMMET LOCATIONS

Air exciters and grommets are located on the screed as shown below.

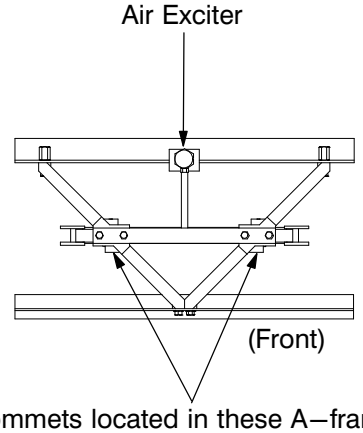
AVS8



AVS4



AVS2



REPLACEMENT PARTS

The warranty is stated in this book on page 14. **Failure to return the Warranty Registration Card renders the warranty null and void.**

MBW has established a network of reputable distributors/ dealers with trained mechanics and full facilities for maintenance and rebuilding, and to carry an adequate parts stock in all areas of the country. Their sales engineers are available for professional consultation. If you cannot locate an MBW distributor in your area, contact MBW or one of our Sales Branches listed below.

When ordering replacement parts, be sure to have the following information available:

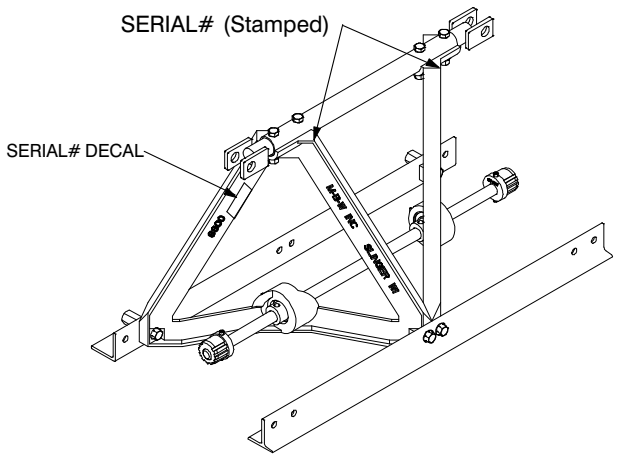
- Model and Serial Number of machine when ordering MBW parts
- Model and Serial Number of engine when ordering engine parts
- Part Number, Description, and Quantity
- Company Name, Address, Zip Code, and Purchase Order Number
- Preferred method of shipping

REMEMBER - You own the best! If repairs are needed, use only MBW parts purchased from authorized MBW distributors.

Write Model Number here

Write Serial Number here

SCREED FRAME



The unit's serial number can be found in the following locations:

- The serial number for each screed section is located on the side of the left most A-Frame.
- The serial number is also stamped into the top of each A-Frame.

Contact Information

MBW, Inc.
250 Hartford Rd • PO Box 440
Slinger, WI 53086-0440
Phone: (262) 644-5234
Fax: (262) 644-5169
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MBW (UK) Ltd.
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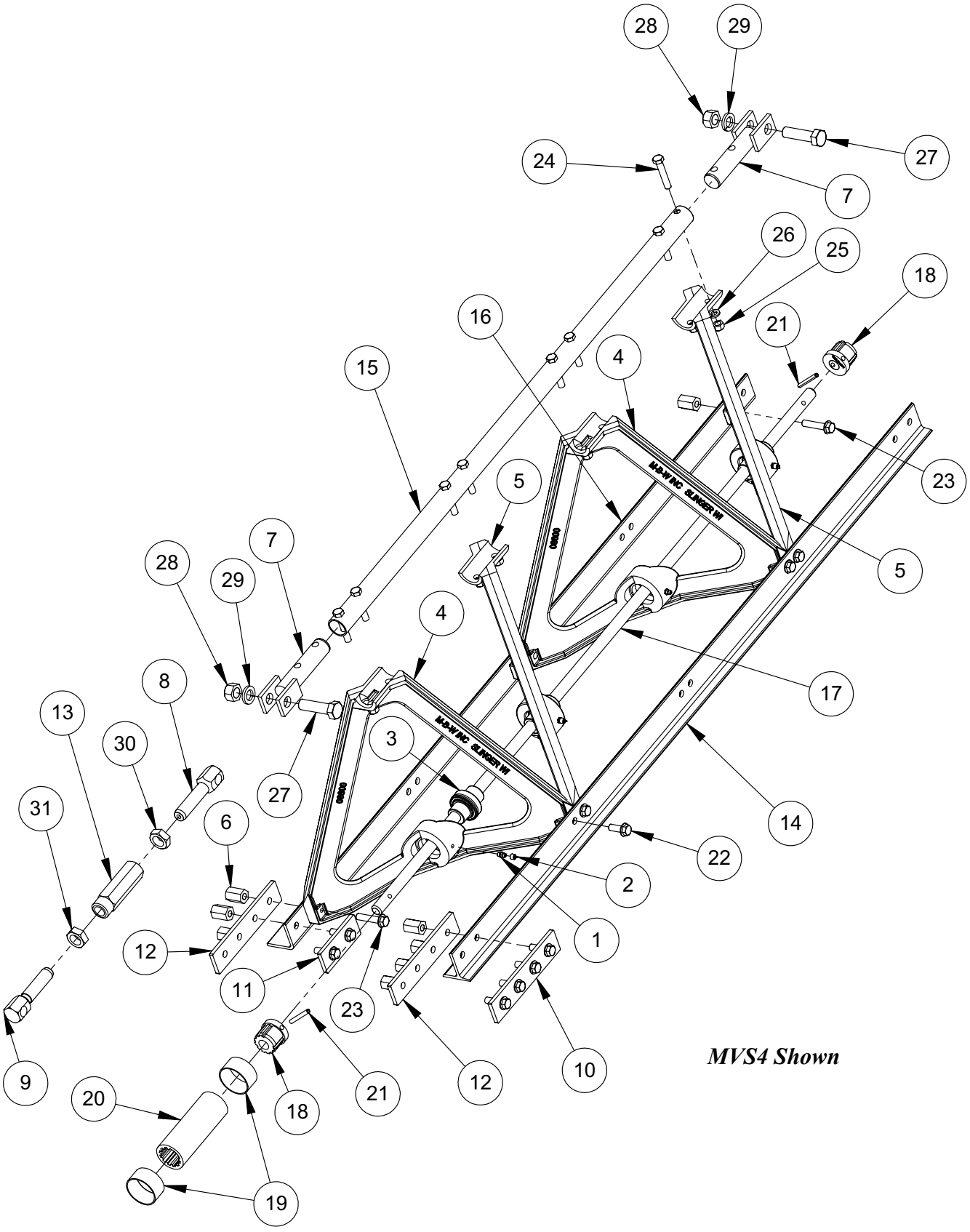
Bolton BL3 6BN, England
Phone: 01204 387784
Fax: 01204 387797
Email: mbwuk@btinternet.com

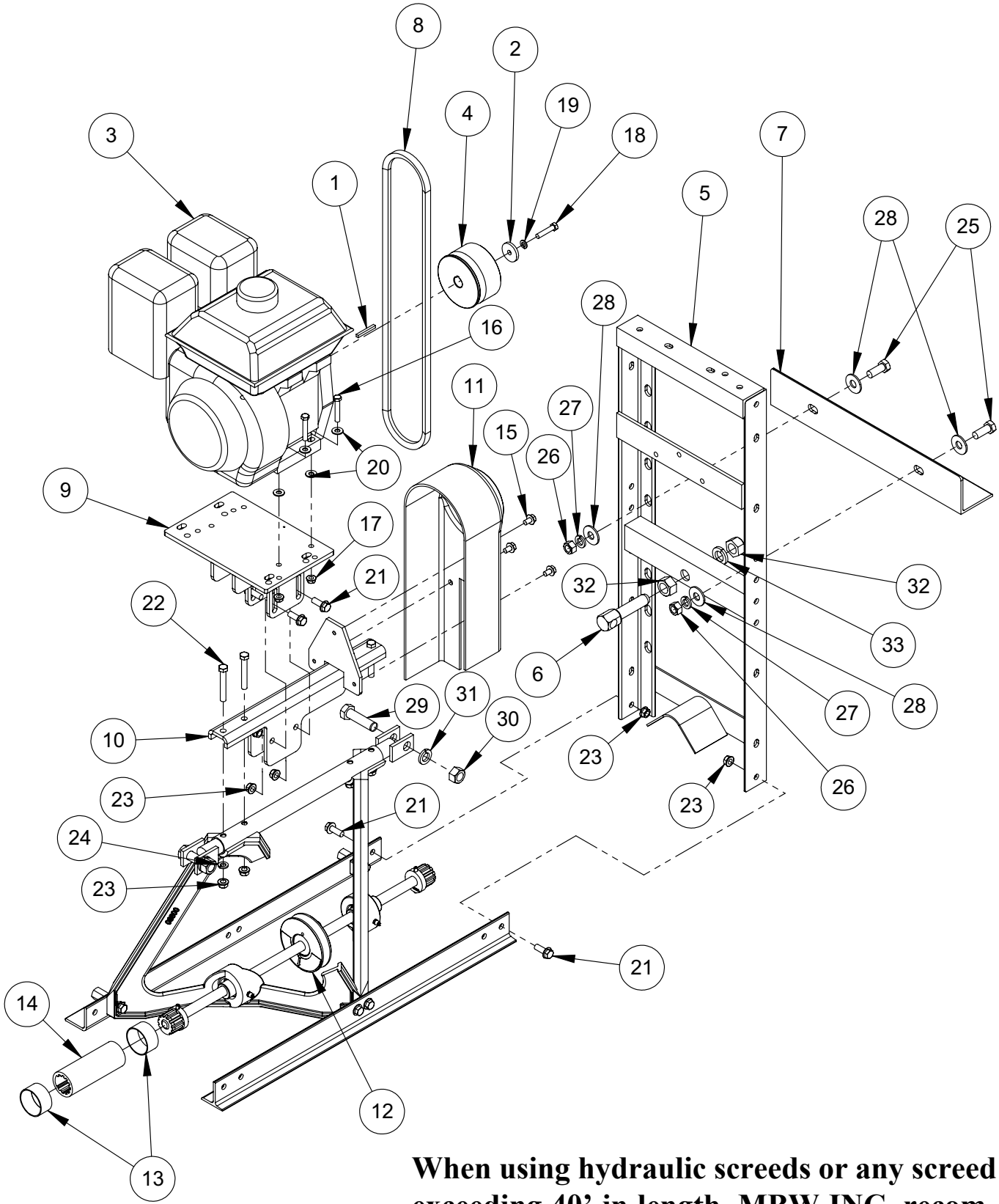
MBW France S.A.R.L.
Phone:+33 (0) 3 44 07 15 96



MVS4 Shown

MVS Assembly

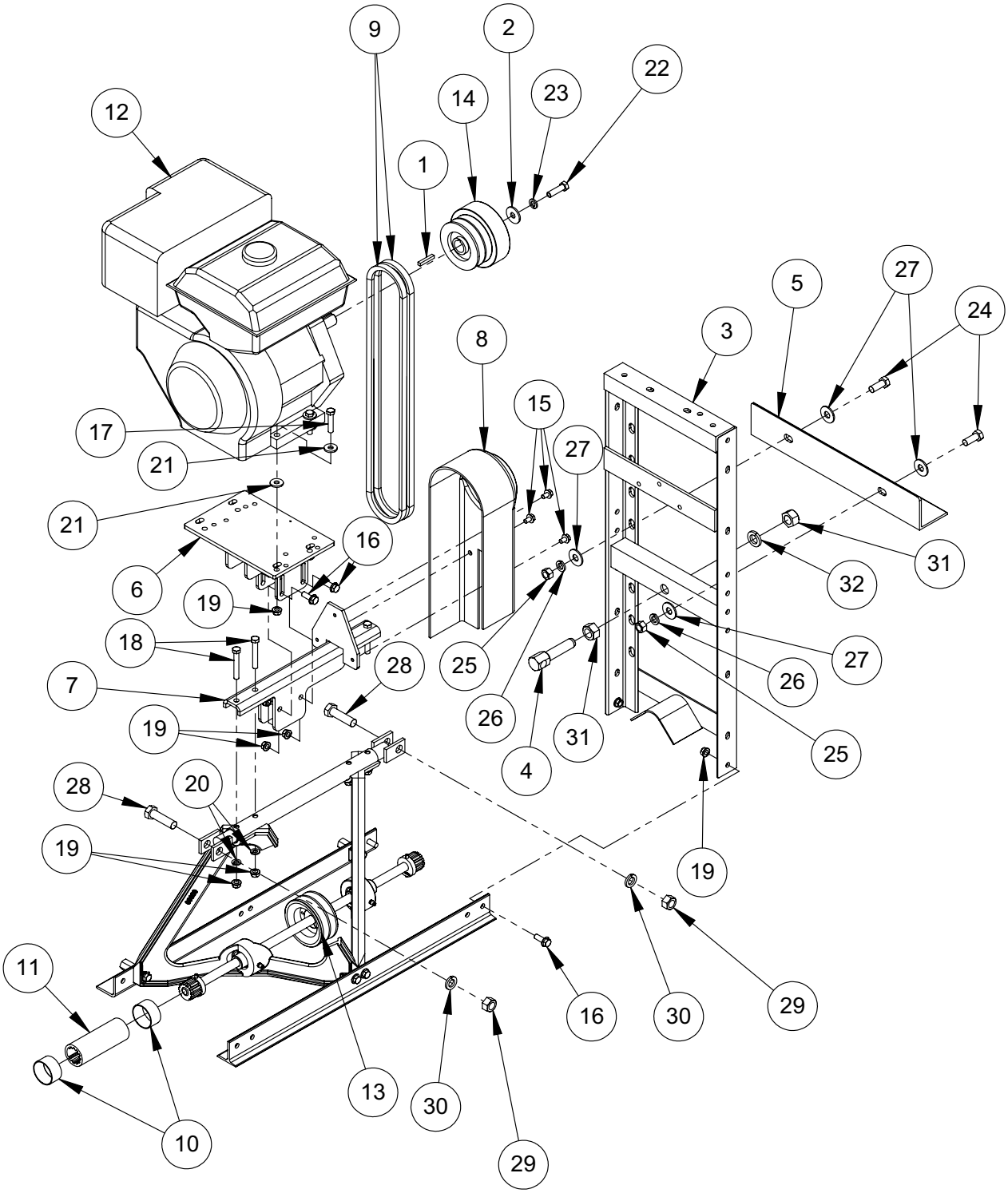
ITEM	PART NO.	DESCRIPTION	MVS2	MVS4	MVS8
1.	01177	FITTING, GREASE STD	2	3	5
2.	01427	CAP, GREASE (1 CAP)	2	3	5
3.	08804	BEARING, RADIAL BALL	2	4	5
		(INCLUDES 2 SHSS, 5/16-24 X 5/16)			
4.	08805	A-FRAME, MACHINED LEFT	1	2	4
5.	08806	A-FRAME, MACHINED RIGHT	1	2	4
6.	08818	NUT, BLIND ZP, PLATED	8	8	8
7.	08828	CLEVIS, PLATED	2	2	2
8.	08829	EYE, PLATED TURNBUCKLE RH	1	1	1
9.	08830	EYE, PLATED TURNBUCKLE LH	1	1	1
10.	08831	PLATE ASM, SPLICE	1	1	1
11.	08832	PLATE ASM, SPLICE SHORT	1	1	1
12.	08838	PLATE, SPLICE	2	2	2
13.	08839	TURNBUCKLE, PLATED	1	1	1
14.	08846	EDGING, STRIKEOFF 2 FT	1	0	0
	08847	EDGING, STRIKEOFF 4 FT	0	1	0
	08848	EDGING, STRIKEOFF 8 FT	0	0	1
15.	08850	TUBE, TOP 2 FT	1	0	0
	08851	TUBE, TOP 4 FT	0	1	0
	08852	TUBE, TOP 8 FT	0	0	1
16.	08871	EDGING, FLOAT 2 FT	1	0	0
	08872	EDGING, FLOAT 4 FT	0	1	0
	08873	EDGING, FLOAT 8 FT	0	0	1
17.	08995	SHAFT, MAIN SECTION, 2 FT	1	0	0
	08997	SHAFT, MAIN SECTION, 4 FT	0	1	0
	08999	SHAFT, MAIN SECTION, 8 FT	0	0	1
18.	09081	DRIVER, KEYED	2	2	2
19.	11734	COLLAR, FLEX COUPLING	2	2	2
20.	09076	COUPLER KIT (INCLUDES COUPLING AND COLLARS)	1	1	1
21.	12554	SPIROL PIN (HEAVY DUTY)	2	2	2
22.	F061608FWS	FWLS, 3/8-16 X 1 ZP	2	6	14
23.	F061614FWS	FWLS, 3/8-16 X 1-3/4 ZP	2	2	2
24.	F061616HCS	HHCS, 3/8-16 X 2 GR5 ZP	4	8	16
25.	F0616HN	NUT, HEX 3/8-16 ZP	4	8	16
26.	F06LW	LOCKWASHER, 3/8 ZP	4	8	16
27.	F101818HCS	HHCS, 5/8-18 X 2-1/4 GR5 ZP	2	2	2
28.	F1018HN	NUT, HEX 5/8-18 ZP	2	2	2
29.	F10LW	LOCKWASHER, 5/8 ZP	2	2	2
30.	F1216HJN	NUT, HEX JAM 3/4-16 ZP	1	1	1
31.	F1216HJN-LH	NUT, HEX JAM 3/4-16 (LH) ZP	1	1	1
		ACCESSORIES, KITS & ASSEMBLIES			
	02535	KIT, TURNBUCKLE BLITZSCREED (Includes 8, 9, 13, 29 & 30)			
	08841	A-FRAME ASSEMBLY, LEFT (Includes 1, 2, 3 & 4)			
	08842	A-FRAME ASSEMBLY, RIGHT (Includes 1, 2, 3 & 5)			
	08899	KIT, HARDWARE BLITZSCREED (Includes 6, 8, 9, 10, 11, 12, 13, 18, 26, 27, 28, 29 & 30)			



When using hydraulic screeds or any screed exceeding 40' in length, MBW INC. recommends the use of the 9 HP engine.

Engine Kit Assembly (5.5 HP Honda)

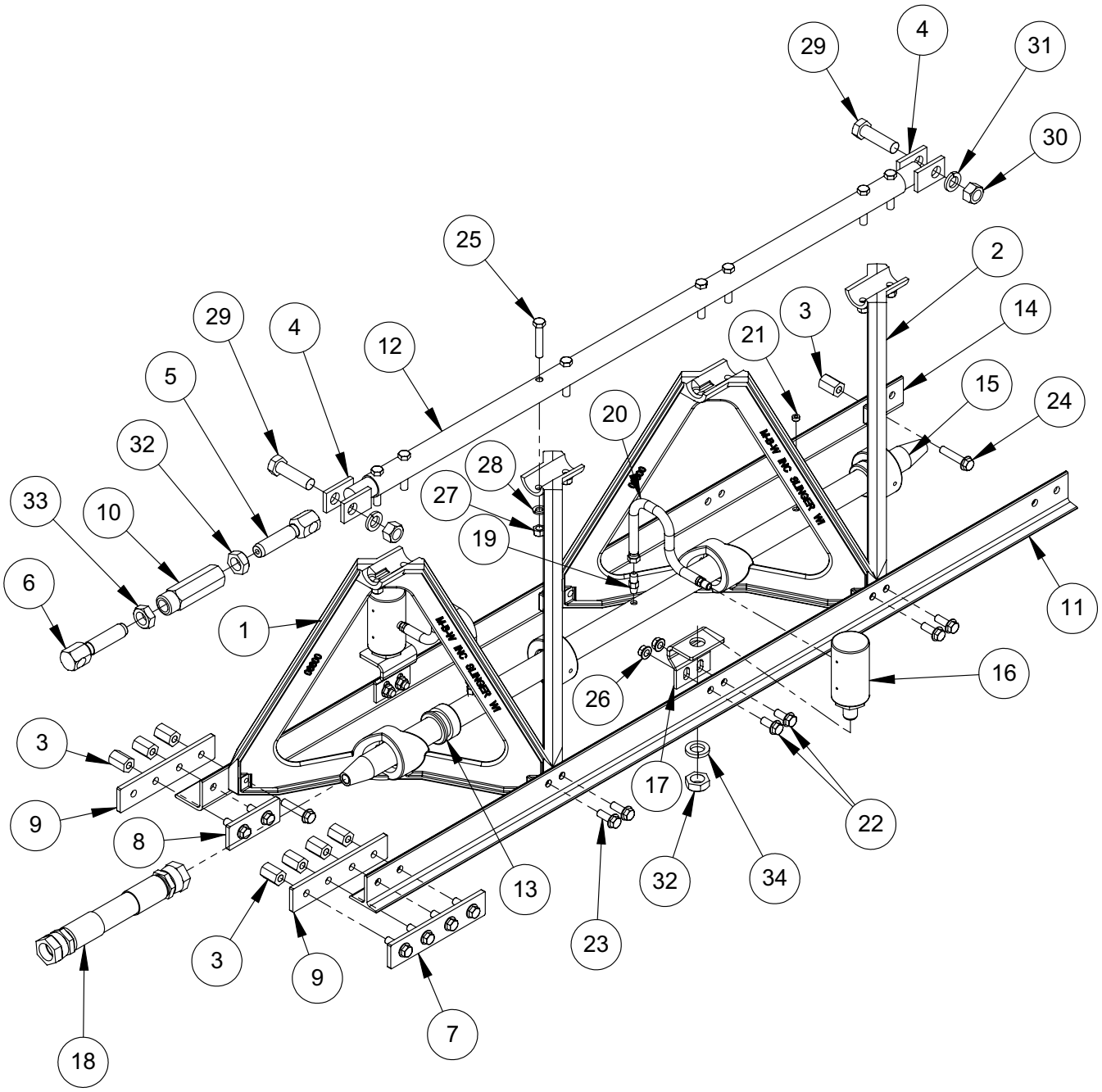
ITEM	PART NO.	DESCRIPTION	QTY
1.	00032	KEY, 3/16 SQ X 1-5/8	1
2.	01099	WASHER	1
3.	01444	ENGINE, HONDA GX160K1QX 5.5 HP	1
4.	06473	CLUTCH, CENTRIFUGAL 3/4 BORE	1
5.	08808	WELDMENT, END BRACKET	2
6.	08829	EYE, PLATED TURNBUCKLE RH	2
7.	08885	BRACKET, WALL	1
8.	09071	V-BELT (A-48)	2
9.	09087	WELDMENT, ENGINE DECK	1
10.	09090	MOUNTING BRACKET, ENGINE	1
11.	09092	BELTGUARD, SCREED	1
12.	09126	SHEAVE ASM, SINGLE GROOVE	1
13.	11734	COLLAR, FLEX COUPLING	2
14.	09076	COUPLER KIT (INCLUDES COUPLING AND COLLARS)	1
15.	F051804FWS	FWLS, 5/16-18 X 1/2 ZP	3
16.	F051814HCS	HHCS, 5/16-18 X 1-3/4 GR5 ZP	4
17.	F0518FN	FWLN, 5/16-18 ZP	4
18.	F052412HCS	HHCS, 5/16-24 X 1-1/2 GR5 ZP	1
19.	F05LW	LOCKWASHER, 5/16 ZP	1
20.	F05SW	WASHER, 5/16 X 3/4 X 15 GA ZP	8
21.	F061608FWS	FWLS, 3/8-16 X 1 ZP	8
22.	F061620HCS	HHCS, 3/8-16 X 2-1/2 GR5 ZP	4
23.	F0616FN	FWLN, 3/8-16	12
24.	F06LW	LOCKWASHER, 3/8 ZP	4
25.	F081310HCS	HHCS, 1/2-13 X 1-1/4 GR5 ZP	2
26.	F0813HN	NUT, HEX 1/2-13 ZP	2
27.	F08LW	LOCKWASHER, 1/2 ZP	2
28.	F08SW	WASHER, 9/16 Z 1-3/8 X 12 GA ZP	4
29.	F101818HCS	HHCS, 5/8-18 X 2-1/4 GR5 ZP	2
30.	F1018HN	NUT, HEX 5/8-18 ZP	2
31.	F10LW	LOCKWASHER, 5/8 ZP	2
32.	F1216HN	NUT, HEX 3/4-16 ZP	4
33.	F12LW	LOCKWASHER, 3/4 ZP	1



HD Dual Belt System Shown

Engine Kit Assembly (9 HP Honda)

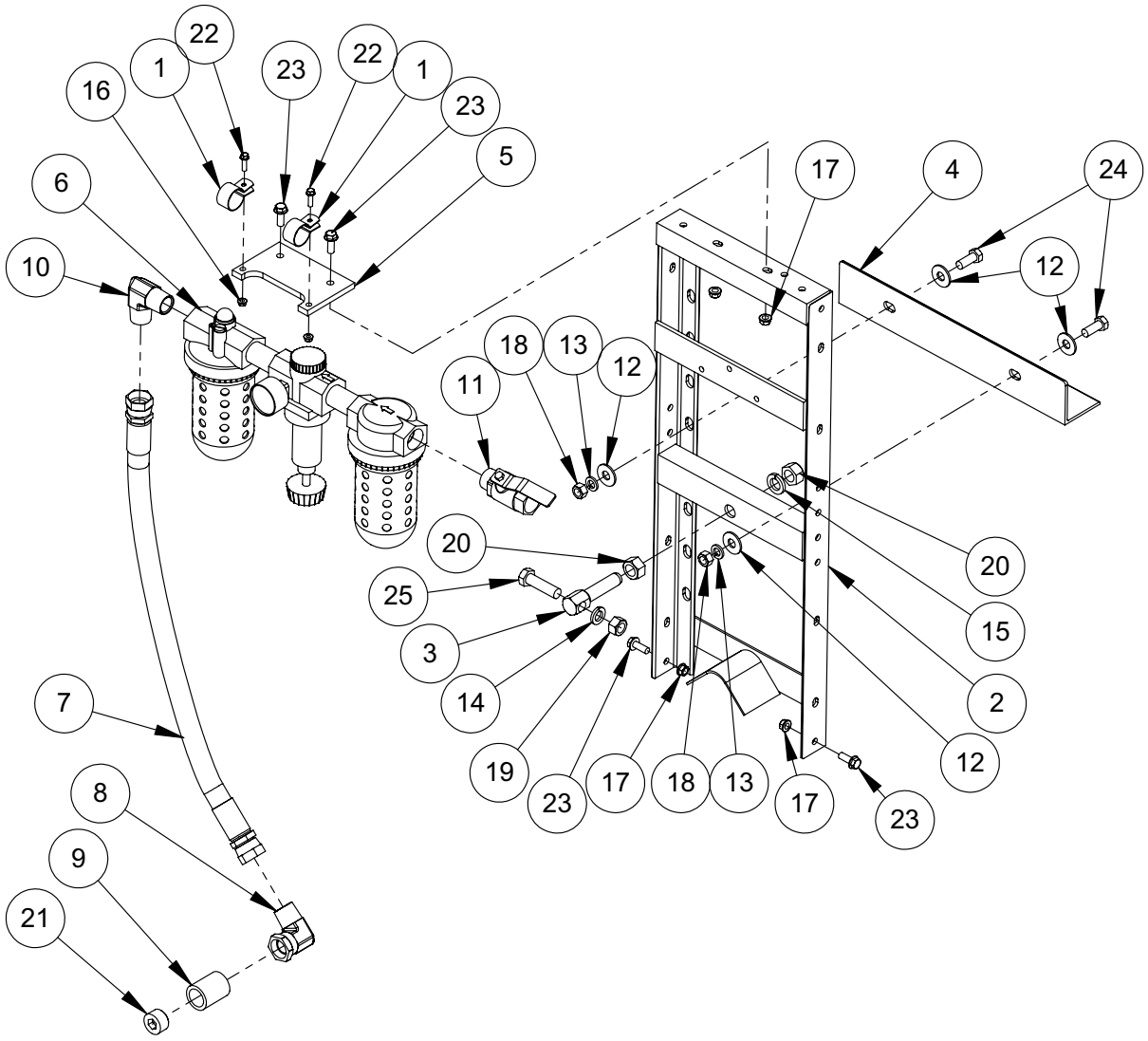
ITEM	PART NO.	DESCRIPTION	STD	HD
1.	01161	KEY, 1/4 SQ X 1-1/2	1	1
2.	06638	WASHER, SPECIAL 15/32 ID	1	1
3.	08808	WELDMENT, END BRACKET	2	2
4.	08829	EYE, PLATED TURNBUCKLE RH	2	2
5.	08885	BRACKET, WALL	1	1
6.	09087	DECK WELDMENT, ENGINE	1	1
7.	09090	MOUNTING BRACKET, ENGINE	1	1
8.	09092	BELTGUARD, SCREED	1	1
9.	09096	V-BELT (A-49)	2	4
10.	11734	COLLAR, FLEX COUPLING	2	2
11.	09076	COUPLER KIT (INCLUDES COUPLING AND COLLARS)	1	1
12.	15674	ENGINE, GX270QA 9 HP	1	1
13.	16272	SHEAVE ASM, DUAL GROOVE	0	1
	09126	SHEAVE ASM, SINGLE GROOVE	1	0
14.	17149	CLUTCH, DUAL GROOVE	0	1
	06606	CLUTCH, SINGLE GROOVE	1	0
15.	F051804FWS	FWLS, 5/16-18 X 1/2 ZP	3	3
16.	F061608FWS	FWLS, 3/8-16 X 1 ZP	8	8
17.	F061614HCS	HHCS, 3/8-16 X 1-3/4 GR5 ZP	4	4
18.	F061620HCS	HHCS, 3/8-16 X 2-1/2 GR5 ZP	4	4
19.	F0616FN	FWLN, 3/8-16	16	16
20.	F06LW	LOCKWASHER, 3/8 ZP	4	4
21.	F06SW	WASHER, 25/64 X 1 X 1/8 ZP	8	8
22.	F072012HCS	HHCS, 7/16-20 X 1-1/2 GR5 ZP	1	1
23.	F07LW	LOCKWASHER, 7/16 ZP	1	1
24.	F081310HCS	HHCS, 1/2-13 X 1-1/4 GR5 ZP	2	2
25.	F0813HN	NUT, HEX 1/2-13 ZP	2	2
26.	F08LW	LOCKWASHER, 1/2 ZP	2	2
27.	F08SW	WASHER, 9/16 X 1-3/8 X 12 GA ZP	4	4
28.	F101818HCS	HHCS, 5/8-18 X 2-1/4 GR5 ZP	2	2
29.	F1018HN	NUT, HEX 5/8-18 ZP	2	2
30.	F10LW	LOCKWASHER, 5/8 ZP	2	2
31.	F1216HN	NUT, HEX 3/4-16 ZP	4	4
32.	F12LW	LOCKWASHER, 3/4 ZP	2	2



AVS4 Shown

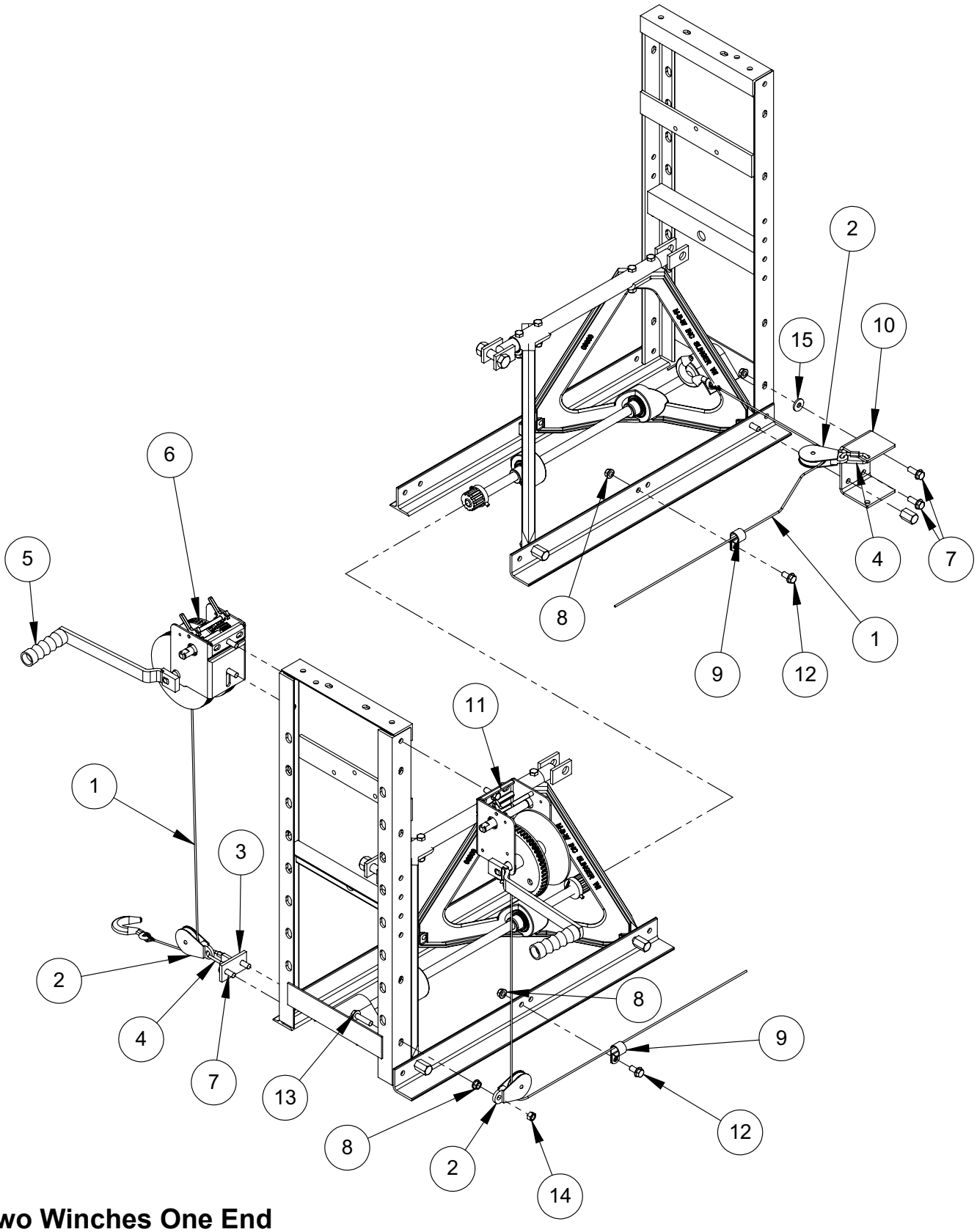
AVS Assembly

ITEM	PART NO.	DESCRIPTION	AVS2	AVS4	AVS8
1.	08805	A-FRAME, LEFT (08800)	1	2	4
2.	08806	A-FRAME, RIGHT (08801)	1	2	4
3.	08818	NUT, BLIND ZP, PLATED	8	8	8
4.	08828	CLEVIS, PLATED	2	2	2
5.	08829	EYE, PLATED TURNBUCKLE RH	1	1	1
6.	08830	EYE, PLATED TURNBUCKLE LH	1	1	1
7.	08831	PLATE ASM, SPLICE	1	1	1
8.	08832	PLATE ASM, SPLICE SHORT	1	1	1
9.	08838	PLATE, SPLICE	2	2	2
10.	08839	TURNBUCKLE, PLATED	1	1	1
11.	08846	EDGING, STRIKEOFF 2 FT	1	0	0
	08847	EDGING, STRIKEOFF 4 FT	0	1	0
	08848	EDGING, STRIKEOFF 8 FT	0	0	1
12.	08850	TUBE, TOP 2 FT	1	0	0
	08851	TUBE, TOP 4 FT	0	1	0
	08852	TUBE, TOP 8 FT	0	0	1
13.	08870	GROMMET, TUBE MANIFOLD	2	2	4
14.	08871	EDGING, FLOAT 2 FT	1	0	0
	08872	EDGING, FLOAT 4 FT	0	1	0
	08873	EDGING, FLOAT 8 FT	0	0	1
15.	08912	MANIFOLD, AIR 2 FT SECTION	1	0	0
	08877	MANIFOLD, AIR 4 FT SECTION	0	1	0
	08902	MANIFOLD, AIR 8 FT SECTION	0	0	1
16.	08894	EXCITER, AIR	1	2	4
17.	08900	BRACKET, EXCITER AIR	1	2	4
18.	08905	HOSE, AIR 1 X 10	1	1	1
19.	08909	FITTING, ST PARKER 4-FTX-B	1	2	4
20.	09074	HOSE, AIR 1/4 X 9.90	1	2	4
21.	F0227SPP	SOCKET PIPE PLUG, 1/8-27	0	1	3
22.	F061607FWS	FWLS, 3/8-16 X 7/8 ZP	2	4	8
23.	F061608FWS	FWLS, 3/8-16 X 1 ZP	2	6	14
24.	F061614FWS	FWLS, 3/8-16 X 1-3/4 ZP	2	2	2
25.	F061616HCS	HHCS, 3/8-16 X 2 GR5 ZP	4	8	16
26.	F0616FN	FLANGE WHIZ-LOCK NUT, 3/8-16	2	4	8
27.	F0616HN	NUT, HEX 3/8-16 ZP	4	8	16
28.	F06LW	LOCKWASHER, 3/8 ZP	4	8	16
29.	F101818HCS	HHCS, 5/8-18 X 2-1/4 GR5 ZP	2	2	2
30.	F1018HN	NUT, HEX 5/8-18 ZP	2	2	2
31.	F10LW	LOCKWASHER, 5/8 ZP	2	2	2
32.	F1216HJN	NUT, HEX JAM 3/4-16 ZP	2	3	5
33.	F1216HJN-LH	NUT, HEX JAM 3/4-16 (LH) ZP	1	1	1
34.	F12LW	LOCKWASHER, 3/4 ZP	1	2	4
		ACCESSORIES, KITS & ASSEMBLIES			
	02535	KIT, TURNBUCKLE BLITZSCREED (Includes 5, 6, 10, 32 & 33)			
	08914	KIT, EXCITER AIR (Includes 16, 17, 19, 20, 22, 26, 32 & 34)			
	08917	KIT, HARDWARE AIR SCREED (Includes 3, 5, 6, 7, 8, 9, 10, 18, 29,			
		30, 31 & 32)			



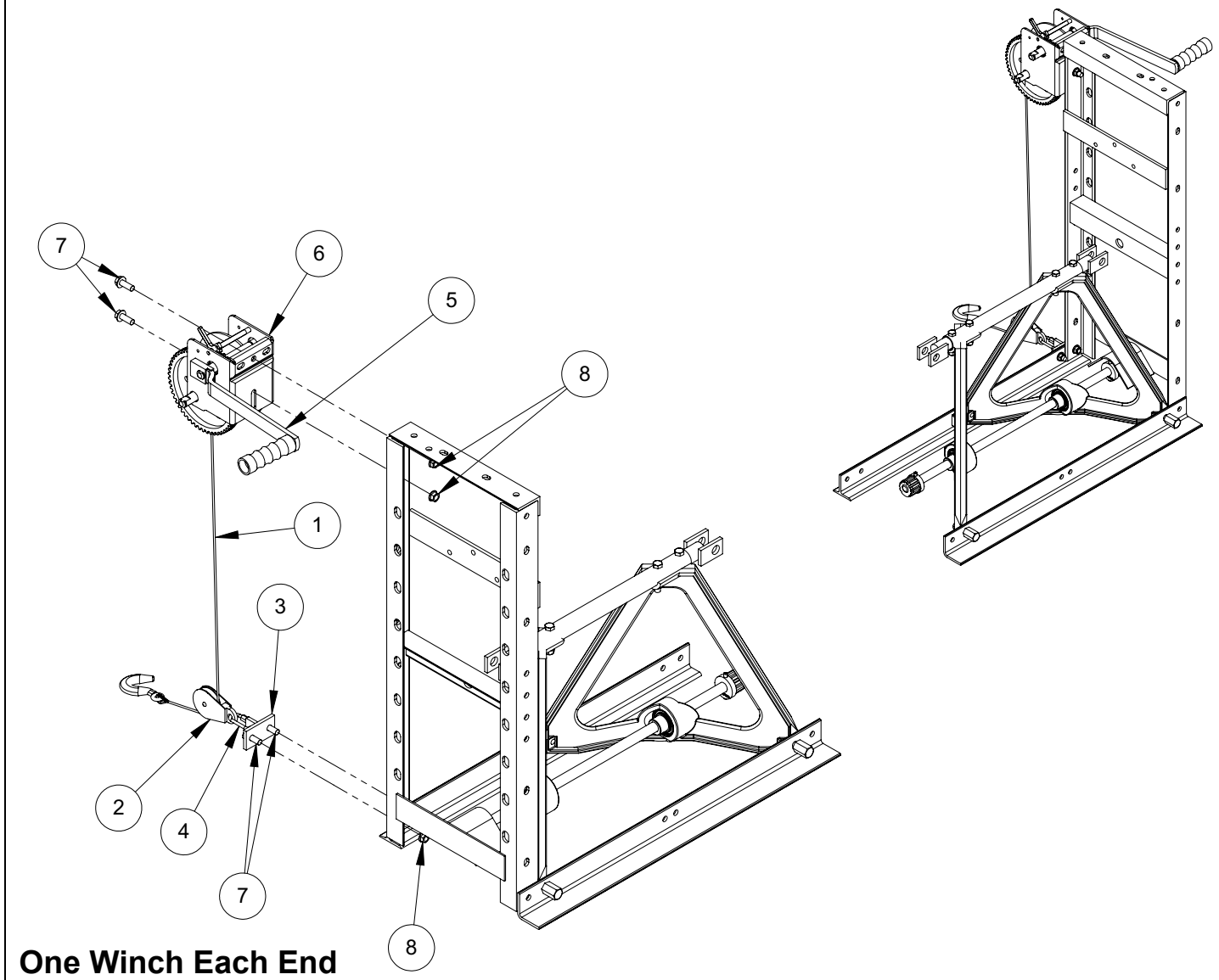
Air Regulator Kit Assembly

ITEM	PART NO.	DESCRIPTION	QTY
1.	01223	RING, PIPE	2
2.	08808	WELDMENT, BRACKET END	1
3.	08829	EYE, PLATED TURNBUCKLE RH	1
4.	08885	BRACKET, WALL	1
5.	08901	FILTER, MOUNTING AIR FILTER	1
6.	08910	REGULATOR UNIT, COMBINATION	1
7.	08911	HOSE, AIR 1 X 29	1
8.	20595	ELBOW, 1” NPT X 1” NPS	1
9.	20596	COUPLER, 1 X 11 1/2 NPS	1
10.	20597	ELBOW, 1” NPT MALE	1
11.	20598	BALL VALVE, 1” MALE X FEMALE	1
12.	F08SW	WASHER, 9/16 X 1-3/8 X 12 GA	4
13.	F08LW	LOCKWASHER, 1/2 ZP	2
14.	F10LW	LOCKWASHER, 5/8 ZP	1
15.	F12LW	LOCKWASHER, 3/4 ZP	1
16.	F0420FN	FLANGE WHIZ-LOCK NUT 1/4-20	2
17.	F0616FN	FLANGE WHIZ-LOCK NUT, 3/8-16	4
18.	F0813HN	NUT, HEX 1/2-13	2
19.	F1018HN	NUT, HEX 5/8-18	1
20.	F1216HN	NUT, HEX 3/4-16	2
21.	F1611SPP	1-11 1/2 NPT PIPE PLUG	1
22.	F042007FWS	FWLS, 1/4-20 X 7/8	2
23.	F061608FWS	FWLS, 3/8-16 X 1	4
24.	F081310HCS	HHCS, 1/2-13 X 1-1/4	2
25.	F101818HCS	HHCS, 5/8-18 X 2-1/4	1



Two Winches One End

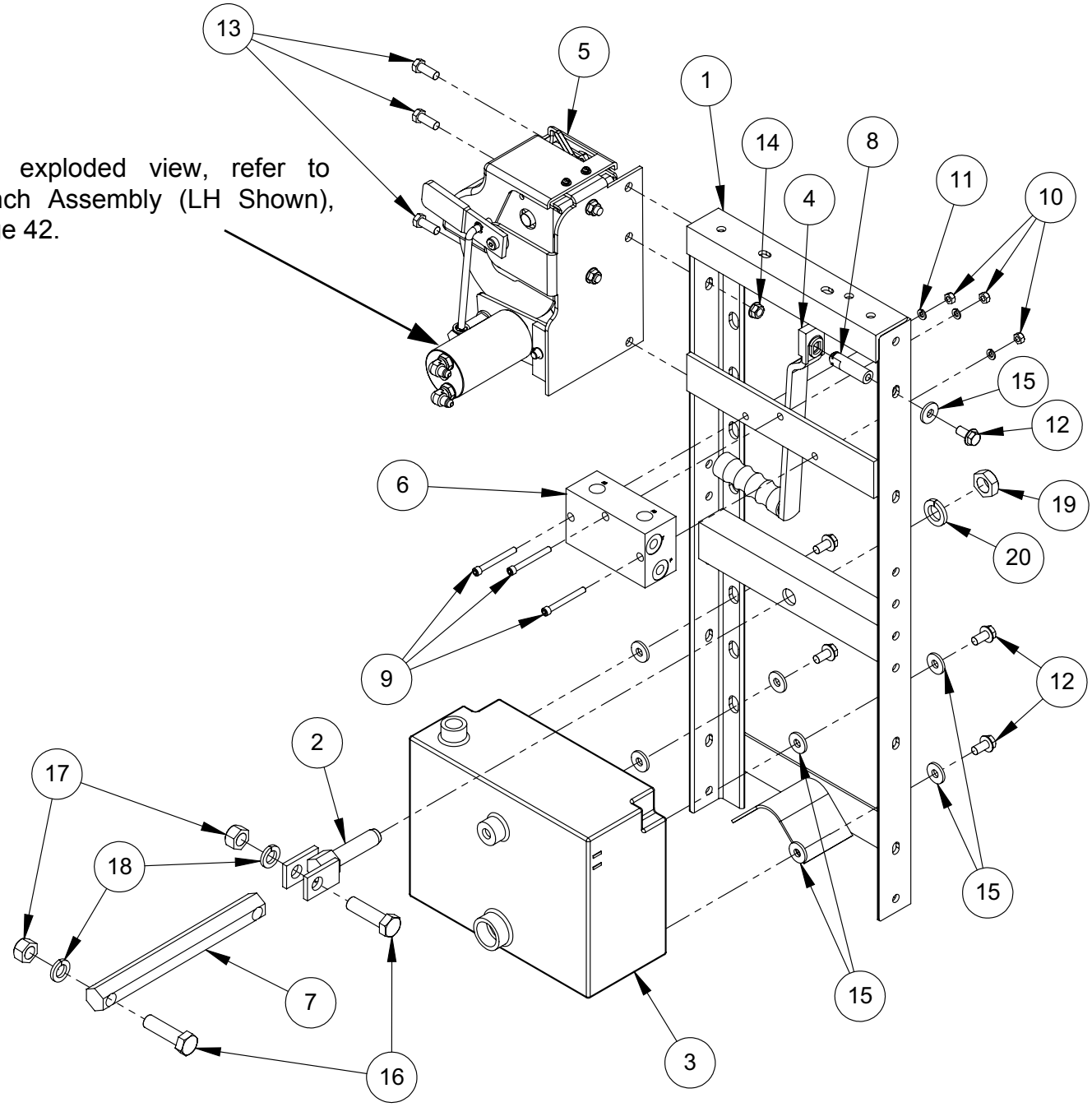
Hand Winch Kit



One Winch Each End

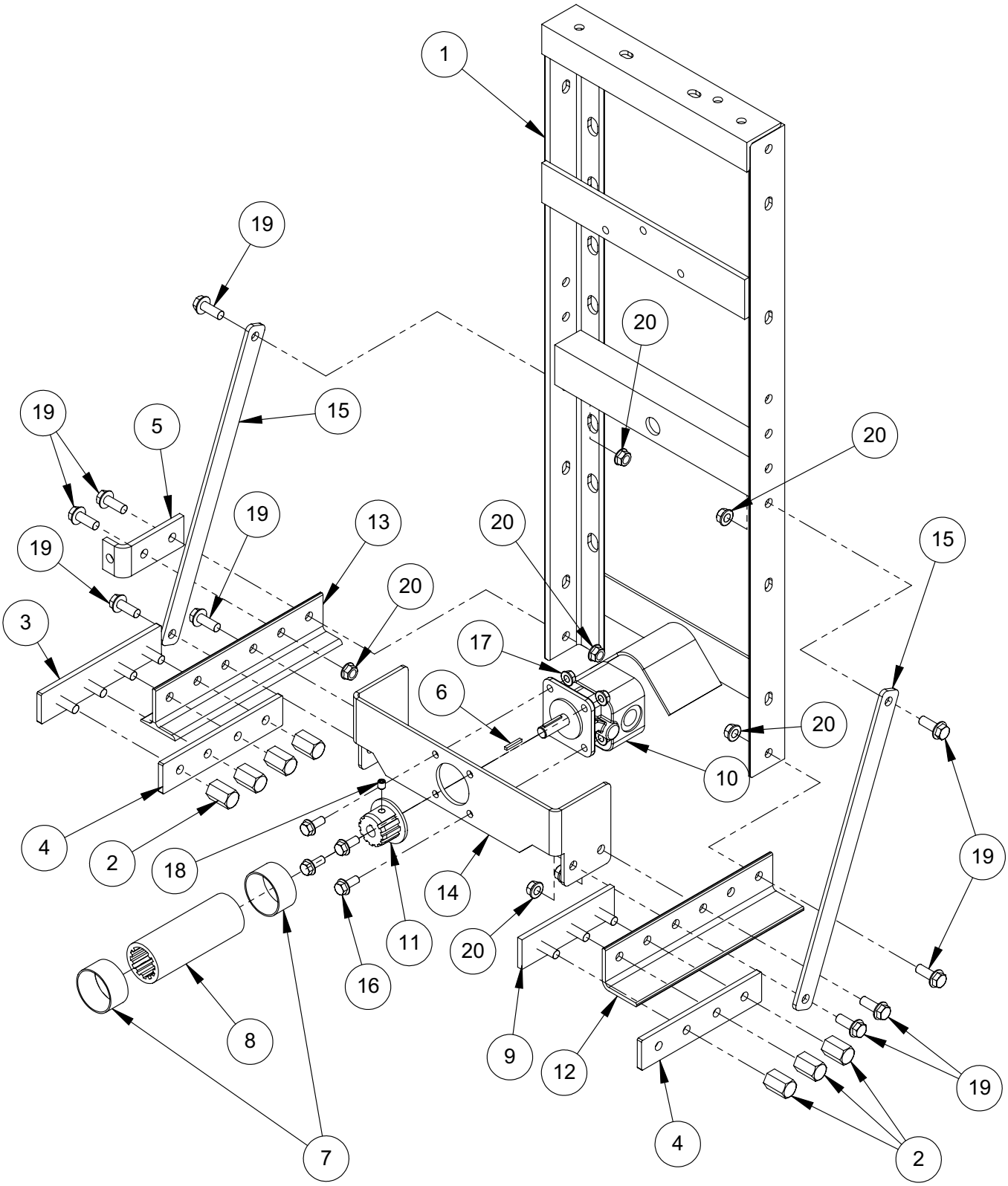
ITEM	PART NO.	DESCRIPTION	QTY
1.	08888	CABLE ASM, WINCH 60 FT & HOOK	2
2.	08891	PULLEY	3
3.	08976	BRACKET, PULLEY	2
4.	08993	LINK, PULLEY	2
5.	15336	HANDLE, WINCH	2
6.	16186	WINCH (LH)	1
7.	F061608FWS	FWLS, 3/8-16 X 1 ZP	8
8.	F0616FN	FLANGE WHIZ-LOCK NUT, 3/8-16	14
9.	01428	CLAMP, TUBE	6
10.	09065	PULLEY BRACKET	1
11.	16185	WINCH, R.H.	1
12.	F061606FWS	FWLS, 3/8-16 X 3/4 ZP	6
13.	F061612FWS	FWLS, 3/8-16 X 1-1/2 ZP	1
14.	F0616DLN	LOCKNUT, 3/8-16 DEFORMED (DWG)	1
15.	F06SW	WASHER, 25/64 X 1 X 1/8 ZP	1
	08858	KIT, HAND WINCH BLITZSCREED (Includes 1-15)	

For exploded view, refer to Winch Assembly (LH Shown), page 42.



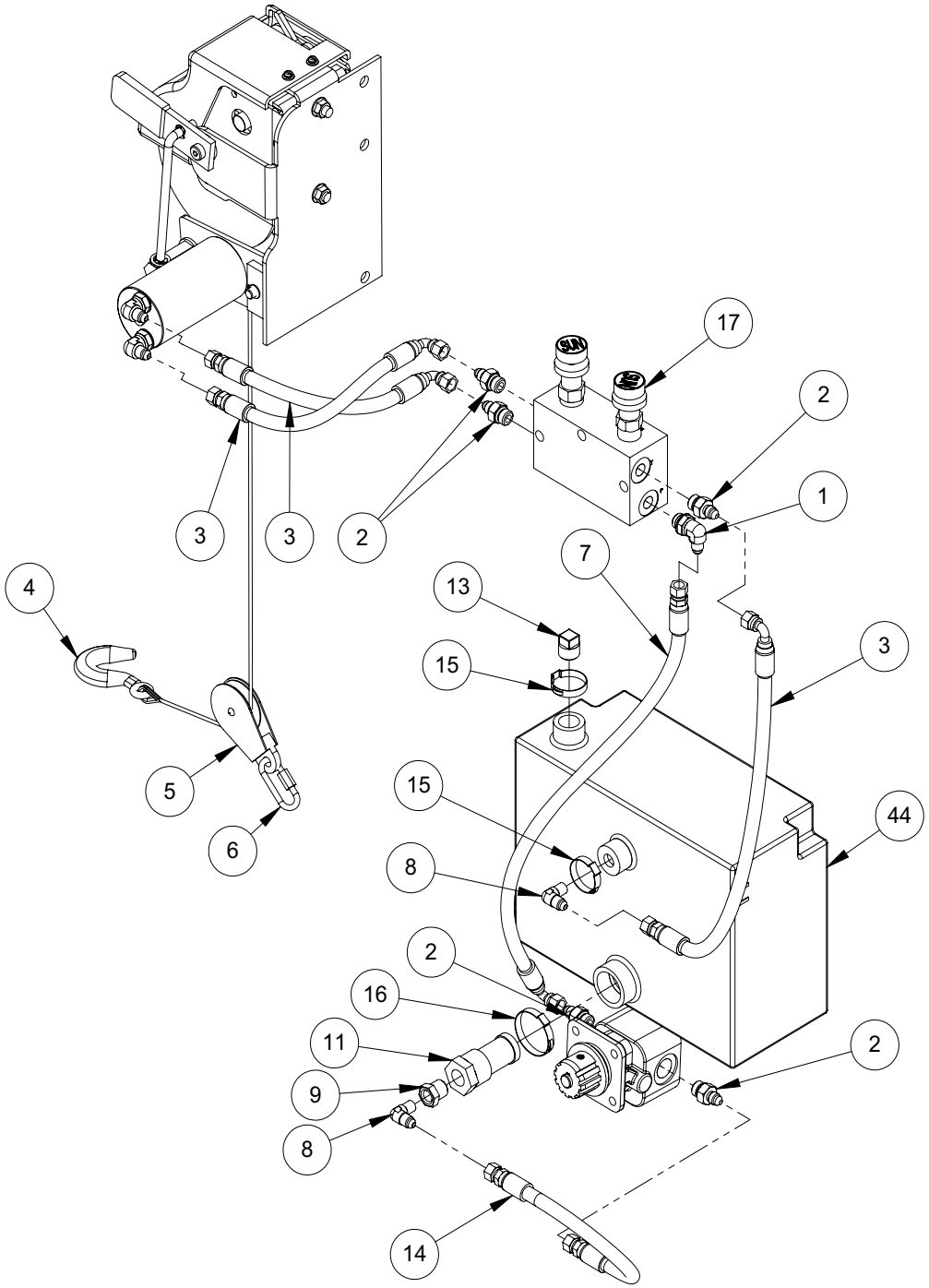
Hydraulic Winch Kit (RH Shown) - Figure 1

ITEM	PART NO.	DESCRIPTION	QTY
1.	08808	WELDMENT, BRACKET END	1
2.	14722	CLEVIS, THREADED	1
3.	15373	TANK, OIL, ASSEMBLY	1
4.	15336	HANDLE, WINCH	1
5.	15345	WINCH DRIVE ASSEMBLY (LH)	1
	15359	WINCH DRIVE ASSEMBLY (RH)	1
6.	15360	BLOCK, NEEDLE AND RELIEF (reversed on RH)	1
7.	15368	BAR, EXTENSION, ZINC PLATED	1
8.	15403	SUPPORT, WINCH HANDLE, ZP	1
9.	F042018SCS	SCS, 1/4-20 X 2-1/4	3
10.	F0420HN	NUT, HEX 1/4-20 ZP	3
11.	F04LW	LOCKWASHER, 1/4 ZP	3
12.	F061606FWS	FWLS, 3/8-16 X 3/4 ZP	5
13.	F061608HCS	HHCS, 3/8-16 X 1 GR5 ZP	3
14.	F0616FN	FLANGE WHIZ-LOCK NUT, 3/8-16	3
15.	F06SW	WASHER, 25/64 X 1 X 1/8 ZP	10
16.	F101818HCS	HHCS, 5/8-18 X 2-1/4 GR5 ZP	2
17.	F1018HN	NUT, HEX 5/8-18 ZP	2
18.	F10LW	LOCKWASHER, 5/8 ZP	2
19.	F1216HJN	NUT, HEX JAM 3/4-16 ZP	1
20.	F12LW	LOCKWASHER, 3/4 ZP	1
		QUANTITIES SHOWN ARE PER SIDE	



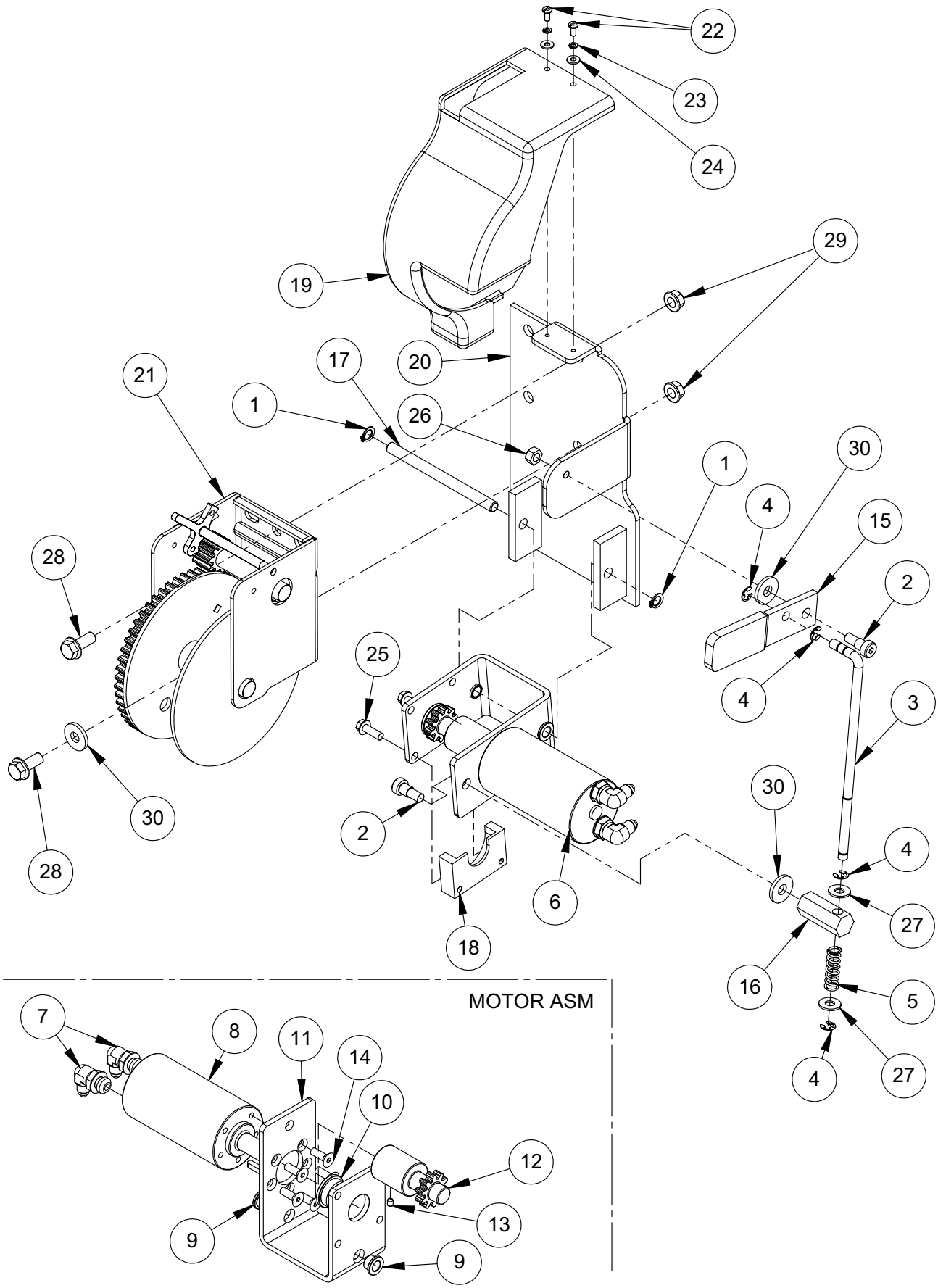
Hydraulic Winch Kit (RH Shown) - Figure 2

ITEM	PART NO.	DESCRIPTION	QTY
1.	08808	WELDMENT, BRACKET END	1
2.	08818	NUT, BLIND ZP, PLATED	7
3.	08831	PLATE ASM, SPLICE	1
4.	08838	PLATE, SPLICE	2
5.	08942	BRACKET, MOUNTING	1
6.	09739	KEY, 1/8 SQ X 7/8	1
7.	11734	COLLAR, FLEX COUPLING	2
8.	09076	COUPLER KIT (INCLUDES COUPLING AND COLLARS)	1
9.	14627	PLATE ASM, SPLICE, 3 BOLT	1
10.	15301	PUMP, HYDRAULIC	1
11.	15316	DRIVER, PUMP	1
12.	15320	EDGING, FLOAT, WINCH	1
13.	15321	EDGING, STRIKEOFF, WINCH	1
14.	15381	PLATE, PUMP MOUNT, COATED	1
15.	16052	BRACE, FRAME, COATED	2
16.	F051806FWS	FWLS, 5/16-18 X 3/4 ZP	4
17.	F0518FN	NUT, FLANGE WHIZ-LOCK, 5/16-18 ZP	4
18.	F052403SSS	SSS, 5/16-24 X 3/8	1
19.	F061608FWS	FWLS, 3/8-16 X 1 ZP	9
20.	F0616FN	FLANGE WHIZ-LOCK NUT, 3/8-16	9
		QUANTITIES SHOWN ARE PER SIDE	



Hydraulic Winch Kit (RH Shown) - Figure 3

ITEM	PART NO.	DESCRIPTION	QTY
1.	08216	FITTING, ELBOW PARKER 4-6C50X	3
2.	08218	FITTING, STRAIGHT PARKER 4-6F50X	5
3.	08273	HOSE, HYDRAULIC, 1/4 X 13	3
4.	08888	CABLE ASM, WINCH, 60 FT	1
5.	08891	PULLEY	1
6.	08993	LINK, PULLEY	1
7.	09204	HOSE, HYDRAULIC 1/4 X 32-1/2	1
8.	09699	FITTING, ELBOW PARKER 4-4CTX-S	2
9.	11364	FITTING REDUCER, PARKER 3/8 X 14 PTRS	1
10.	15373	TANK, OIL, ASSEMBLY	1
11.	15342	SUCTION STRAINER	1
12.	15345	WINCH DRIVE ASSEMBLY, LH	1
	15359	WINCH DRIVE ASSEMBLY, RH	1
13.	15374	PLUG, SQUARE HEAD, 1/2-14 NPT	1
14.	15376	HOSE, HYDRAULIC, 1/4 X 11	1
15.	15453	CLAMP, 7/8	2
16.	15454	CLAMP, 1-3/16	1
17.	15360	BLOCK, NEEDLE AND RELIEF	1
	16154	KNOB, VALVE (FITS VALVES #15362 AND #15363)	2
		QUANTITIES SHOWN ARE PER SIDE	



Winch Assembly (LH Shown)

ITEM	PART NO.	DESCRIPTION	QTY
1.	01279	RETAINING RING, EXTERNAL 5555-37	2
2.	01280	SCREW, SOCKET HEAD SHOULDER	2
3.	15333	ROD, CONNECTING	1
4.	15337	RETAINING RING, EXTERNAL	4
5.	15338	SPRING, COMPRESSION	1
6.	15347	MOTOR ASSEMBLY	1
7.	08216	FITTING, ELBOW PARKER 4-6C50X	2
8.	15302	MOTOR, HYDRAULIC	1
9.	15348	BEARING, FLANGE	2
10.	15349	BEARING, FLANGE	1
11.	15383	BRACKET, SUPPORT, MOTOR, COATED	1
12.	16119	PINION, ZINC PLATED	1
13.	F033202SSS	SSS, #10-32 X 1/4	1
14.	F042806FSS	FSS, 1/4-28 X 3/4 ZP	5
15.	15367	LEVER, COATED	1
16.	15370	PIN, PIVOT, ZINC PLATED	1
17.	15380	SHAFT, PIVOT, ZINC PLATED	1
18.	15387	COVER, DRIVEGEAR	1
19.	15388	COVER, WINCH (PLASTIC) - S/N 103000074 and above	1
	15433	COVER, WINCH (METAL) - S/N 103000073 and below	1
	15432	COVER, WINCH (METAL) - S/N 103000073 and below	
	15379	COVER, WINCH (PLASTIC) - S/N 103000074 and above	
20.	16124	BACK PLATE - S/N 103000074 and above	1
	15389	BACK PLATE - S/N 103000073 and below	1
	15382	BACK PLATE - S/N 103000073 and below	
	16126	BACK PLATE - S/N 103000074 and above	
21.	16185	WINCH - S/N 103000074 and above	1
	15283	WINCH - S/N 103000073 and below	1
	15358	WINCH - S/N 103000073 and below	
	16186	WINCH - S/N 103000074 and above	
22.	F023203PMS	PAN HEAD MACHINE SCREW, #8-32 X 3/8	2
23.	F02LW	LOCKWASHER, #8 ZP	2
24.	F02SW	WASHER, 3/16 X 7/16 X 18GA ZP	2
25.	F042004HCS	HHCS, 1/4-20 X 1/2 GR5 ZP	2
26.	F0518HN	NUT, HEX 5/16-18 ZP	1
27.	F05BFW	WASHER, 21/64 X 3/4 X 0.064 BRASS	2
28.	F061607FWS	FWLS, 3/8-16 X 7/8 ZP	2
29.	F0616FN	FLANGE WHIZ-LOCK NUT, 3/8-16	2
30.	F06SW	WASHER, 25/64 X 1 X 1/8 ZP	3

WARRANTY

WHAT DOES THIS WARRANTY COVER? MBW, Incorporated (MBW) warrants each New Machine against defects in material and workmanship for a period of twelve (12) months. "New Machine" means a machine shipped directly from MBW or authorized MBW dealer to the end user. This warranty commences on the first day the machine is sold, assigned to a rental fleet, or otherwise put to first use.

MBW warrants each Demonstration Machine against defects in material and workmanship for a period of six (6) months. "Demonstration Machine" means a machine used by MBW or its agents for promotional purposes. This warranty commences on the first day the machine is sold, assigned to a rental fleet, or otherwise put to first use.

This warranty covers the labor cost for replacement or repair of parts, components, or equipment on New Machines or Demonstration Machines, and MBW shall pay labor costs at MBW's prevailing rate to affect the warranted repair or replacement. MBW reserves the right to adjust labor claims on a claim-by-claim basis.

This warranty covers the shipping cost of replacement parts, components, or equipment via common ground carriers from MBW to an authorized MBW dealer. Air freight is considered only in cases where ground transportation is not practical.

MAY THIS WARRANTY BE TRANSFERRED? This warranty is non-transferable and only applies to the original end user of a new machine or demonstration machine.

WHAT DOES THIS WARRANTY NOT COVER?

1.This warranty does not cover any Used Equipment. "Used Equipment" means any MBW machine or equipment that is not a New Machine or a Demonstration Machine. All Used Equipment is sold **AS IS/WHERE IS WITH ALL FAULTS.**

2.This warranty does not cover any New Machine, Demonstration Machine, or their equipment, parts, or components altered or modified in any way without MBW's prior written consent. This warranty does not cover the use of parts not specifically approved by MBW for use on MBW products. This warranty does not cover misuse, neglect, shipping damage, accidents, acts of God, the operation of any New Machine or Demonstration Machine in any way other than recommended by MBW in accordance with its specifications, or any other circumstances beyond MBW's control. This warranty does not cover any New Machine or Demonstration Machine repaired by anyone other than MBW factory branches or authorized MBW distributors.

3.This warranty does not cover, and MBW affirmatively disclaims, liability for any damage or injury resulting directly or indirectly from design, materials, or operation of a New Machine or Demonstration Machine or any other MBW product. MBW's liability with respect to any breach of warranty shall be limited to the provisions of this document and in no event shall exceed an amount equal to the purchase price of the New Machine or Demonstration Machine purchased from MBW.

4.This warranty does not cover engines, motors, and other assemblies or components produced by other manufacturers and used on a New Machine or Demonstration Machine, as said engines, motors, and other assemblies or components may have warranties provided by the manufacturer thereof. This warranty does not apply to consumable items, such as v-belts, filters, trowel and screed blades, seals, shock mounts, batteries, and the like, all of which are sold AS IS/WHERE IS WITH ALL FAULTS.

5.This warranty does not cover the cost of transportation and other expenses which may be connected with warranty service but not specifically mentioned herein.

6.This warranty does not cover any updates to any New Machine, Demonstration Machine, or any other MBW product. MBW reserves the right to improve or make product changes without incurring any obligation to update, refit, or install the same on New Machines or Demonstration Machines previously sold.

WHAT MUST YOU DO TO OBTAIN WARRANTY COVERAGE? Each New Machine or Demonstration Machine is accompanied by a Warranty Registration Card. You must sign, date, and return the Warranty Registration Card to the place of origin of the New Machine or Demonstration Machine, either to MBW, Inc. at P.O. Box 440, Slinger, Wisconsin 53086, MBW (UK), Ltd. at Units 2 & 3 Cochrane Street, Bolton BL3 6BN, United Kingdom or MBW FRANCE SARL at ZA D'Outreville, 5 Rue Jean Baptiste Neron, Bornel 60540 France, within ten (10) days after purchase, assignment to a rental fleet, or first use. This signed warranty card is the buyer's affirmation that he has read, understood, and accepted the warranty at the time of purchase. Failure to return the warranty card as specified herein renders the warranty null and void. In order to receive warranty coverage consideration, warranty claims must be submitted within thirty (30) days after the New Machine or Demonstration Machine fails. Warranty claims must be submitted to MBW, Inc., MBW (UK), Ltd. or MBW FRANCE SARL, and written authorization for the return of merchandise or parts under the warranty must be obtained before shipment to MBW.

WHAT WILL MBW DO? MBW's obligation under this warranty is limited to the replacement or repair of parts for a New Machine or Demonstration Machine at MBW factory branches or at authorized MBW distributors, and such replacement or repair is the exclusive remedy provided hereunder. Labor must be performed at an authorized MBW distributor. MBW reserves the right to inspect and render a final decision on each warranty case, and MBW's repair or replacement is solely within the discretion of MBW.

IT IS EXPRESSLY AGREED THAT THIS SHALL BE THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY. UNDER NO CIRCUMSTANCES SHALL MBW BE LIABLE FOR ANY COSTS, LOSS, EXPENSE, DAMAGES, SPECIAL DAMAGES, INCIDENTAL DAMAGES, OR PUNITIVE DAMAGES ARISING DIRECTLY OR INDIRECTLY FROM THE USE OF THE NEW MACHINE OR DEMONSTRATION MACHINE WHETHER BASED UPON WARRANTY, CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR ANY OTHER LEGAL THEORY.

THE FOREGOING WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR USE, AND FITNESS FOR A PARTICULAR PURPOSE, AND ALL OTHER OBLIGATIONS OR LIABILITY ON MBW'S PART. MBW NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME ON BEHALF OF MBW ANY OTHER LIABILITY OR WARRANTY IN CONNECTION WITH THE SALE OR SERVICE OF ANY NEW MACHINE, DEMONSTRATION MACHINE , OR ANY OTHER MBW PRODUCT.

EXTENDED RAMMER WARRANTY - MODELS R422, R442, R482 & R483.

This extended warranty commences on the last day of MBW's standard, one year, "limited warranty" and runs for an additional four years (48 months). This extended warranty is limited to part replacement and shipping costs of rammer **bellows and non-metallic slide bearings only.** This extended warranty does not cover labor, down time, or any other cost beyond that of component replacement and freight. This extended warranty is subject to all limitations set fourth in MBW's "limited warranty", above.